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Environmental Impact Statement Newmont Gold Company's South Operations Area Project

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FINAL
ENVIRONMENTAL IMPACT STATEMENT
NEWMONT GOLD COMPANY'S
SOUTH OPERATIONS AREA PROJECT

Prepared by

U.S. Department of the Interior
Bureau of Land Management
Elko District Office
Elko, Nevada

November 1993

Billy R. Templeton
Nevada State Director

11/12/93
Date

FINAL

ENVIRONMENTAL IMPACT STATEMENT
NEWMONT GOLD COMPANY'S SOUTH OPERATIONS AREA PROJECT

LEAD AGENCY

U.S. Department of the Interior
Bureau of Land Management
Elko District Office
Elko, Nevada

PROJECT LOCATION

Elko and Eureka Counties, Nevada

COMMENTS ON THIS FINAL ENVIRONMENTAL IMPACT STATEMENT (EIS) SHOULD BE DIRECTED TO:

David Vandenberg, EIS Coordinator
Elko District Office
Bureau of Land Management
P.O. Box 831
Elko, NV 89803
(702) 753-0200

DATE FINAL EIS WAS MADE AVAILABLE TO THE ENVIRONMENTAL PROTECTION AGENCY AND THE PUBLIC

December 3, 1993

DATE BY WHICH COMMENTS SHOULD BE RECEIVED BY THE BUREAU OF LAND MANAGEMENT

January 3, 1994

ABSTRACT

The Final Environmental Impact Statement (FEIS) responds to comments received during the public comment period on the Draft Environmental Impact Statement (DEIS) which analyzed impacts due to continuation and expansion of gold mining operations on a site in northeastern Nevada and identifies mitigation to be implemented to eliminate or reduce impacts associated with the proposal. The Proposed Action includes: (1) mining 775 feet below the groundwater level in a currently operating open pit mine, (2) dewatering the mine (up to 42,000 gallons per minute) and discharging warm groundwater directly into Maggie Creek, six miles above the confluence with the Humboldt River, (3) mining two new open pit mines, (4) constructing ancillary mine facilities, and (5) constructing a new haul road for transport of ore from a private mine north of the project area. Three alternatives to the Proposed Action were analyzed in the DEIS. The Agency Preferred Alternative has been revised in response to Newmont's Mitigation Plan and includes all components of the Proposed Action with implementing methods and procedures to maintain temperature of discharge waters within 2° C of Humboldt River water at the confluence with Maggie Creek and stabilize Maggie Creek channel to transport discharge water without adverse environmental effects. Newmont's mitigation plan provides for extensive monitoring of groundwater drawdown; implementation of flow augmentation programs to maintain water levels in springs, seeps, and streams as needed; immediate implementation of riparian habitat restoration programs; off-site restoration of Lahontan cutthroat trout habitat; haul road modifications for mule deer migration; off-site seedings for mule deer; and reclamation.

FINAL ENVIRONMENTAL IMPACT STATEMENT
NEWMONT GOLD COMPANY'S
SOUTH OPERATIONS AREA PROJECT

TABLE OF CONTENTS

Page

CHAPTER 1: **INTRODUCTION** 1-1

CHAPTER 2: **AGENCY PREFERRED ALTERNATIVE** 2-1

CHAPTER 3: **ERRATA** 3-1

CHAPTER 4: **COMMENTS AND RESPONSES** 4-1

LIST OF APPENDICES

APPENDIX A Newmont Gold Company South Operations Area Project Mitigation Plan (Bound Separately)

APPENDIX B Summary of Maggie Creek Stabilization Plan

APPENDIX C Summary of Temperature Effects of the Newmont Gold Company Dewatering Discharge on Surface Water

CHAPTER 1

INTRODUCTION

This Final Environmental Impact Statement (FEIS) is prepared for Newmont Gold Company's (Newmont) South Operations Area Project in northeastern Nevada. The FEIS includes the Agency Preferred Alternative, a record of written and verbal comments received on the Draft Environmental Impact Statement (DEIS), and Newmont's Mitigation Plan outlining mitigation to eliminate or reduce impacts resulting from the Proposed Action. The previously distributed DEIS and this document together constitute the FEIS for the South Operations Area Project.

The South Operations Area Project DEIS was distributed for public review on May 21, 1993. The Bureau of Land Management (BLM) received written comments and held two public meetings to solicit comments during the public comment period which ended July 19, 1993. Neither written comments nor verbal comments received during public meetings required major changes or revisions in the analysis or conclusions presented in the DEIS. The DEIS has not been reprinted, and therefore this document must be read in conjunction with the DEIS that was released for public review on May 21, 1993. Some minor revisions were made to the text of the DEIS and are contained in Chapter 3 of this document.

The revised Agency Preferred Alternative is described in Chapter 2. Chapter 3 presents specific modifications and corrections to the DEIS. All comment letters and responses to substantive comments are provided in Chapter 4.

The FEIS incorporates Newmont's Mitigation Plan (Appendix A - bound separately) for impacts described in the DEIS and those identified through public comments. The Plan was developed after extensive consultation with the BLM and in cooperation with the TS Ranch and other area landowners. The Mitigation Plan is comprehensive, including mitigation measures for potential environmental impacts identified in the DEIS, without regard to whether they occur on public or private lands. These measures will mitigate potential adverse impacts of dewatering before they occur, and will provide not only protection of natural resources, but also improvement of many natural resources over pre-project baseline conditions.

Two technical reports received by BLM from Newmont regarding Maggie Creek channel stabilization and thermal changes in receiving water resulting from the Gold Quarry mine dewatering system are summarized in the FEIS (Appendices B and C). Appendix B is a summary of the Maggie Creek Stabilization Plan prepared by Simons and Associates, Inc. That report demonstrates that the Maggie Creek channel would remain stable at the highest discharge rate resulting from the proposed action. With limited channel modifications, the Maggie Creek channel would be stabilized so that no net increase in sedimentation would occur, and sediment loading during natural flood events would be reduced. Appendix C includes a summary of further thermal modeling and analysis performed by J.E. Edinger Associates. That modeling led to specific cooling system designs consistent with the water temperature analysis in the DEIS for inclusion in the FEIS Agency Preferred Alternative.

CHAPTER 2

AGENCY PREFERRED ALTERNATIVE

This section of the FEIS specifies the Agency Preferred Alternative, and explains revisions made to the Agency Preferred Alternative as described in the DEIS on page 2-59. The revised Agency Preferred Alternative identified in this FEIS will not result in additional impacts beyond those described in the DEIS. This FEIS Agency Preferred Alternative is based upon information that was gathered and analyzed subsequent to preparation of the DEIS to refine existing data and implementation of Newmont's Mitigation Plan to reduce or minimize effects of the Proposed Action.

AGENCY PREFERRED ALTERNATIVE - FEIS

The Agency Preferred Alternative implements all components of the Proposed Action with the following modifications:

- Implementation of methods to stabilize the Maggie Creek channel to minimize erosion and sedimentation that would occur as a result of increased flows in lower Maggie Creek. The channel would be designed to transport all discharge water from the South Operations Area Project in conjunction with natural streamflows without creating adverse environmental effects. Modifications to the Maggie Creek channel and construction of associated outlet structures would necessitate a Section 404 permit from the U.S. Army Corps of Engineers.
- Implementation of a water cooling system (up to two cooling towers) to ensure that discharge water, when mixed with Maggie Creek water (when flowing) and/or the Humboldt River, would be maintained within 2° C (State of Nevada water quality standard) of the Humboldt River ambient temperature at the confluence with Maggie Creek.
- Implementation of Newmont's Mitigation Plan (Appendix A - bound separately).

Channel modifications to Maggie Creek, as described in Appendix B, would eliminate the need for construction of a pipeline to the Humboldt River to handle dewatering flows greater than 80 cubic feet per second. The construction of this pipeline was an element of the DEIS Agency Preferred Alternative.

Additional thermal modeling (Appendix C), has defined water cooling system requirements for discharge waters described in the DEIS. The analysis indicates that up to two cooling towers may be necessary to cool discharge waters. In addition, the water temperature would be maintained within 2° C of ambient water temperature at the confluence of the Humboldt River and Maggie Creek, instead of at the Palisade gage as described in the DEIS. This change is a result of the application of State of Nevada water quality standards at the confluence of the Humboldt River and Maggie Creek.

CHAPTER 3

ERRATA

This chapter presents specific modifications and corrections to the South Operations Area Project DEIS. These corrections and modifications were made in response to comments received during the public comment period.

Page 3-62, column 2, paragraph 3 of the DEIS has been revised as follows:

> "The South Operations Area is located within the Nevada Department of Wildlife's (NDOW) Management Area Six. Mule deer is the most abundant big game species in this management area. In the fall of 1992, an estimated 19,900 mule deer, or about 11 percent of Nevada's statewide mule deer population, were present in Management Area Six (Hess 1992). More than 5,000 mule deer died during the severe 1992-1993 winter, reducing the estimated population to less than 14,000."

Page 3-62, column 2, paragraph 5 of the DEIS has been revised as follows:

> "Timing and duration of the fall migration are primarily a function of climatic conditions. Snow accumulation in summer range initiates southward migration. In mild winters, or during winters with late accumulations of snow, mule deer linger in summer and transitional range to take advantage of ..."

Page 4-48, column 2, paragraph 1 of the DEIS, the last sentence is amended to delete the words "because of potential impacts on aquatic and fisheries".

Page 4-114, column 2, paragraph 4, lines 8 and 9 of the DEIS, have been revised as follows:

> "...wildfire has converted thousands of acres of rangeland..."

Page 4-114, column 1, paragraph 4, insert the following after the second sentence:

> "Barrick has committed to and has begun installing an expanded monitoring well system and an injection well system at the foot of the western slope of the Tuscarora Mountains. The reinjection system will establish a groundwater mound on the west side of the Tuscarora Mountains that will prevent any effects of Barrick's dewatering operations from being transmitted to the Tuscarora Mountains".

Page 4-117, Table 4-20 of the DEIS is amended as follows:

> As to Map Reference No. 8, column "1992-2001" is changed from 0 to 244;
>
> As to Map Reference No. 8, column "Total" is changed from 197 to 441;

As to Map Reference No. 8, column "Source of Disturbance Information," the language "Personal Communication from Newmont to BLM (November 1993) is added;

The Total Disturbance Acres, 1992-2001, is changed from 6,857 to 7,101; and

The Total Disturbance Acres, Total, is changed from 18,223 to 18,467.

Page 4-120: column two of the DEIS, delete the first three sentences of the paragraph beginning on page 4-120 and continuing on page 4-125, and insert the following text in its place:

> "Barrick's ongoing program of hydrologic modeling and geotechnical studies has supplied BLM with additional information concerning the potential effects of Barrick's dewatering activities for the Betze and proposed Meikle mines. The model and studies indicate that there is only a slight potential to reduce baseflows for short reaches of Coyote, Little Jack and Beaver creeks where these drainages emanate from the mountain front. Barrick has committed to and begun a monitoring well system and an injection well system at the foot of the western slope of the Tuscarora Mountains. The reinjection system will establish a groundwater mound on the west side of the Tuscarora Mountains that will prevent any effects of Barrick's dewatering operations from being transmitted to the Tuscarora Mountains. On the basis of this information, BLM has concluded that the cone of depression created by Barrick's dewatering activities will not impact surface water sources in Maggie Creek Basin. Therefore, the most recent available evidence demonstrates that there will be no additive groundwater drawdown due to the cones of depression from Newmont and Barrick dewatering operations."

Page 4-123, Figure 4-22 of the DEIS, the Combined Affects Areas of 10-foot Drawdown from Gold Quarry and Betze Mines (Year 2005) is deleted.

Page 4-126, column one, first full paragraph of the DEIS, the last sentence of that paragraph is deleted.

Page 4-126, column one, last paragraph of the DEIS, the first sentence is amended to delete the words "West Cottonwood, Indian, Jack, Little Jack, and Coyote".

Page 4-129, column one, in the section entitled Aquatic Habitat and Fisheries, first paragraph of the DEIS, the last sentence of that paragraph is deleted.

Page 4-129, column two of the DEIS, the first three full paragraphs are deleted and replaced with the following language:

> "Most occupied Lahontan cutthroat trout habitat is at elevations above approximately 6,000 feet in the mountain spring domains. In these areas of primarily perched springs, most stream reaches are perennial and would not be affected by drawdown from either Gold Quarry or Barrick's Betze and Meikle operations. Historically, reaches of Little Jack and Coyote creeks that are not intermittent, supported populations of Lahontan cutthroats (Evans 1993). Riparian management to exclude overgrazing and improve streamside vegetation could restore suitable habitat conditions to degraded portions of these streams. Reduced streamflows from dewatering would reduce the potential to improve currently degraded habitat in Maggie Creek."

Page 4-130, column one, second paragraph of the DEIS, in the fifth sentence, the language "and areas of drawdown overlap" is deleted.

CHAPTER 4

COMMENTS AND RESPONSES

This chapter includes copies of all public comments received in response to the South Operations Area Project DEIS. The BLM's responses to substantive comments are provided adjacent to the reproduced comment letters. Forty-five comment letters were received for the DEIS. Two of these letters had multiple signatures. In addition, one comment was received during the two public meetings held in Elko and Reno. Nevada, in June 1993. This comment was also provided in writing and is included among the comments and responses in this chapter.

Letter 1.	Peter Hovingh
Letter 2.	Rodney H. Sergent
Letter 3.	Rita Stitzel
Letter 4.	Paula Brady, Kathleen Halley
Letter 5.	Peter Hovingh
Letter 6.	Rachel Jones
Letter 7.	George R.E. Boucher
Letter 8.	Burton B. Gosling
Letter 9.	Wayne Fahsholtz
Letter 10.	Rory E. Lamp
Letter 11.	Glenn C. Miller
Letter 12.	Jacqueline Wyland
Letter 13.	Project Manager/Carson City
Letter 14.	David A. Baker
Letter 15.	Charles Chester
Letter 16.	Ester M. Quilici
Letter 17.	Deborah M. Smith
Letter 18.	Kenneth W. Holt
Letter 19.	Mike Del Grosso
Letter 20.	Clearing House Comments
Letter 21.	Eugene M. Hattori
Letter 22.	Nevada State Clearinghouse
Letter 23.	Bill Durbin
Letter 24.	Nevada State Clearinghouse
Letter 25.	Nevada State Clearinghouse
Letter 26.	Hugh Ricci
Letter 27.	D. Keith Maki
Letter 28.	William E. Martin
Letter 29.	David Cowperthwaite
Letter 30.	Dorothy B. North
Letter 31.	Mary Jane Templeton
Letter 32	William J. Guisti
Letter 33.	Debbie Sustacha
Letter 34.	Mary B. Korpi
Letter 35.	David A. Groves
Letter 36.	Lance L. Dean
Letter 37.	Form Letter (multiple signatures)
Letter 38.	Anita Eccles
Letter 39.	Ali Soltani
Letter 40.	Paul Sarman
Letter 41.	Leroy Schutz
Letter 42.	Tom Amesbury
Letter 43.	E.L. "Buster" Hunsaker III
Letter 44.	Trent Tempel
Letter 45.	Form Letter (multiple signatures)

Letter #1

721 Second Avenue
Salt Lake City
Utah 84103

June 4, 1993

Bureau of Land Management
Elko District Office
Attn: David Vandenberg, EIS Coordinator
P.O. Box 831
Elko, Nevada 89803

Dear Mr Vandenberg:

Concerning the Draft EIS Newmont Gold Company's South Operations Area Project:

I have quickly examined the aquatic section and note:

A

P 3-76: Both the spotted frog and California Floater are listed for the area. In 1992 I found a large population of California Floaters west of Carlin Canyon Narrows (west of the tunnels) and near the gravel pit that enroaches upon the Humboldt River. This population center may contribute to the entire presence of the Humboldt River. The shells are very thick suggesting perhaps a very old population in contrast with other California Floaters found in other parts of the Humboldt River (very rare presence elsewhere). I told Mr McGuire about this population.

P 4-89,90. Affects of project on these species. Your assessment is probably correct.

Thus I suggest for mitigation measures that:

B

1) population studies of spotted frogs occurs, noting number of egg masses laid as an indicator for the number of frogs present.

2) population studies of the California Floater occur. This must be a non-impact study on the species. Age determinations and reproduction activities must be included in the study. The host for the glochids (or hosts) must be determined and these fish hosts must be monitored and perhaps tagged for movements in the Humboldt River and tributaries. I would suggest at this time that these studies be performed by a malacologists who has experience in mussel studies, in combination with a fishery biologists.

3) these studies be continuous throughout the life of the project plus ten year of post project monitoring.

I would appreciate copies of referenced works by the Newmont consultants as applicable to the aquatic systems and their biological constituency.

Further comments may arrive later as a more thorough reading of the Draft EIS is in progress.

Sincerely,
Peter Hovingh
Peter Hovingh

LETTER NO. 1 **Peter Hovingh** **6-4-93**

Response A

Field surveys were conducted on the Humboldt River between Tonka and Beowawe, Maggie Creek, Susie Creek and the perennial portions of Marys Creek and Simon Creek. The mussel Gonidea angulata was common in the Humboldt River, whereas the California floater (Anodonta californiensis) appeared to be extinct in the river reach surveyed. Shell fragments from long-dead California floaters were found in the Humboldt River and Maggie Creek.

The large population of mussels in the Humboldt River in the Carlin Canyon Narrows is Gonidea angulata and not California floater.

Biologists conducting fishery surveys during 1993 found and photographed two living mussels in Maggie Creek upstream from the confluence of Jack Creek. These specimens were returned to the stream unharmed but were identified from the photographs as California floaters. The specimens were outside of the predicted drawdown from the Gold Quarry cone of depression.

Response B

Mitigation measures would improve habitat for the spotted frog and California floater. The Maggie Creek Watershed Restoration Project (pages 6-14, Mitigation Plan) would improve aquatics and wetland habitat in affected areas of Maggie Creek and upstream in the watershed beyond the predicted drawdown zone. Studies to date indicate that California floaters are not present in the area that would be adversely affected by the South Operations Area Project. However, the Mitigation Plan provides for additional studies and mitigation measures if effects of dewatering reach the stream segment where the mussels were found in 1993.

Letter #2

Great Lakes
Chemical Corporation

P.O. BOX 2200 • HIGHWAY 52 N.W. • WEST LAFAYETTE, IN 47906 • PHONE 317 497 6100 • FAX 317 497 6234 • TELEX 27 9428 • CABLE GLAKCHEM LAFAYETTE

Mr. David Vandenberg, EIS Coordinator
Elko District Office
Bureau of Land Management
P.O. Box 831
Elko, Nevada 89803

June 1,1993

Dear Mr. Vandenberg,

I am writing to comment on the draft EIS for Newmont Gold Company's South operations area project. I hope to clarify the current status of the development of bromine chemistry as an alternative to cyanide discussed on page 2-62.

First, the statements made concerning the use of bromine are correct as stated. These comments are not directed at making any changes in the proposed actions by Newmont Gold. The fact is, no serious attempt has been made to demonstrate bromine chemistry on a commercial scale in recent years.

A

However, South Fork Gold Mining Co.,Inc. has such a project now underway near Elko. This project should demonstrate the economics for a high grade oxidized orebody. The results will be applicable to a calcined refractory high grade ore.

Finally, the kinetics of bromine chemistry are far different than cyanide. It is likely a lower cutoff grade will be used to separate high grade vat leach from low grade heap leach ore processing.

I have enclosed several recent papers which outline our progress to develop a viable extraction process. If I can provide additional information or clarification, please don't hesitate to contact me.

Best Regards,

Rodney H. Sergent
Business Manager-Commercial Development

rhs/me
CC: Gary N. Farnes - South Fork Mining Co., Inc.

LETTER NO. 2 **Great Lakes Chemical** **6-1-93**

Response A

Thank you for your comment. The applicant is not required to review all types of processes as long as the proposed method has no significant impacts.

Letter #3

June 16, 1993
Box 236
Carlin, NV 89822

David Vandenberg, EIS Coordinator
Elko District Office
Bureau of Land Management
Box 831
Elko, NV 89803

Dear David Vandenberg:

I am writing with regard to the Environmental Impact Statement--dealing with Newmont Gold Company's South Operations Area Project.

My concern is based upon my personal involvement in the ranching business. My family currently owns the Palisade Ranch located South of Carlin.

A

Our cattle range in two allotments: the Palisade allotment (located west of Highway 278 and south of I-80) (see table 3-79), and the Safford Canyon allotments (located from the ranch headquarters near Palisade south to the Dry Hills in the Crescent Valley area). Most of your references were only with regard to the Palisade allotment; however, because of the proximity, I am not convinced that the area south of the Humboldt River will not also be affected.

Obviously, my primary concern is the WATER! The springs used by the cattle, our domestic house spring, our domestic well, irrigation water (much of which is also spring water), the ground water levels, and also the riparian areas shown along the Humboldt River (Fig. 3-11) are very important to our ranching operation as well as our domestic lifestyle.

B

I noted several omissions in your document. In our allotment alone I know of several (at least 6) running springs and numerous seeps that were not even documented in your EIS! In the Buckrake Jack Canyon there are two residences that are totally dependent upon springs for domestic house water, at no time were the Healeys or Ruth Smith even mentioned in your draft. There are also several families residing in Palisade. Their sole source of water is also domestic springs. To my knowledge, Johnsons, et.al, were not mentioned either.

LETTER NO. 3 Rita Stitzel 6-16-93

Response A

The Stafford Canyon Allotment was not considered in the DEIS because it is located south of the livestock study area, and south of the maximum extent of the predicted 10-foot drawdown contour. As dewatering proceeds, however, the Mitigation Plan further requires ongoing groundwater monitoring and annual recalibration of the hydrogeologic model to provide updated predictions of the extent of dewatering impacts. For all areas impacted by dewatering, the Mitigation Plan requires replacement of any affected water sources used by private parties. The Mitigation Plan (pages 32-37 and Appendices B and C) further describes how Newmont would replace any such water loss.

Response B

Figure 3-8 of the DEIS (page 3-37) shows four springs or seep/spring groups in Buckrake Jack Canyon and two seep/spring locations at Palisade. Although these areas are outside of the predicted cone of depression, the Mitigation Plan would require Newmont to provide replacement water if sources such as those mentioned in your comment are impacted by dewatering.

C In your livestock grazing sections. numerous improvements that have been made in the Palisade Allotment (i.e.: the Tire Springs reservoir. the recent fire reseeding. Emigrant Springs Troughs I & II...) were not even mentioned!!

Your statement on 2-63 really made concerned me. You suggested that there might be "an opportunity to develop pipeline systems and secure water rights to supply water to Elko. Carlin. Spring Creek. Battle Mountain. Winnemucca. Lovelock and/or the Reno Sparks area". D This idea is extremely alarming to those of us with existing water rights--will those be honored FIRST? And what will happen when your dewatering is completed and you have been supplying water to all of the above mentioned towns. cities. and metropolitan areas. Are you suggesting that when you no longer need to dewater. they will no longer need the water you have been providing? This is totally absurd! This proposal appears to me to really have the potential to create a water welfare state as well as an extremely outrageous obstacle at the end of the dewatering period.

Feeling somewhat like an insignificant spectator standing in the middle of one of your haul roads with a 250 ton truck loaded (with gold ore of course) and traveling in my directions at speeds in excess of 70 mph. I really have the inclination to just run. hide. and watch. but that would not really provide any solutions and too many of us have the tendency to do that anyway. so....

I realize with the gold production such as it is and with so much of our economy in this area being dependent on the mining. "progress" will undoubtedly continue. I do have a few personal suggestions and requests though. they are as follows:

E

1.) Line Maggie Creek and put the "overflow" into the Humboldt River. Regulate it so that the water level will not be more than previous floodwater levels so that erosion will be minimal. The water temperature will not effect the river that much because of the hot water springs that exist in the Carlin vicinity.

2.) Put in some "farming" areas to help percolate water back into THIS AREA (as will #1 to some degree).

3.) Honor all existing water rights FIRST.

4.) Do not put to use any water that will cause anyone or anything to become dependent upon your source so that when you cease to dewater it will not be as catastrophic.

Response C

The range improvements listed in the DEIS were those that were of record (occurring on BLM's Master Title Plats) at the time the DEIS was drafted. The Palisade Emergency Fire Rehabilitation project was not recorded at the time the DEIS list was compiled. Range improvements located on private land, such as Tire Springs Reservoir and Emigrant Springs Trough I and II, are not recorded in BLM records. In any event, these improvements are located outside of the predicted area of impact from dewatering, and as discussed in Response B above, the Mitigation Plan would require Newmont to replace any impacted stockwater sources should it become necessary.

Response D

The language on page 2-63 of the DEIS was not intended to imply that BLM sanctions or supports development of such pipeline systems. Currently no plans are being reviewed by BLM to develop pipeline systems and supply excess water to towns or cities.

Response E

The Agency Preferred Alternative in this FEIS includes some modifications to the Maggie Creek channel and implementation of cooling tower(s) that would allow excess dewatering water to be discharged within specified standards (see Appendices B and C for more information). Mitigation measures pertaining to water rights, stockwater, and springs/seeps are contained in the Mitigation Plan (pages 24-37). These measures mandate that existing water rights would be honored.

E

5.) Be quite sure from the beginning that all existing "farming" practices on the anticipated 1650 acres cease when dewatering is completed. (4-50)

6.) (And more personally) Help local ranchers that will be affected to construct earthen dams so that in the event that the springs do dry up, there will be water available for the stock (this is acceptable, because stock water is guaranteed by the Humboldt water decree). This would not only benefit the livestock but also the wildlife!

7.) Commit yourself to helping the ranchers specified in your EIS that will be affected to supply adequate feed and/or compensate for any herd size reductions. (4-92)

I appreciate the time and effort taken by both BLM and Newmont to publish the Environmental Impact Statement and notify us of the South Operations Proposals and the long term impacts. Please be sure and include me on your updated mailing list.

In conclusion, I realize that my concern and disapproval will have little if any impact on whether or not this project proceeds, but I do want my protest to be on record. I am extremely concerned about the possible implications and effects on our ranching business in the future.

Sincerely,

Rita Stitzel

Rita Stitzel
Palisade Ranch Inc.

Letter #4

WESTERN SHOSHONE HISTORIC PRESERVATION SOCIETY
1581 Pinenut Circle
Elko, Nevada 89801
(702) 738-4147

PUBLIC COMMENT
South Operations Area Project

In February of 1992 Newmont submitted a Plan of Operation amendment describing proposed activities at the South Operations Area Project.

The Bureau of Land Management did determine that an Environmental Impact Statement would be necessary and to date this has been established as of May 1993.

This Impact Statement is very informative and the clarifications are stable towards their definitions of the proposed operations.

It is understood that a total of 8,092 AUM's on public and private lands may be effected due to dewatering and surface disturbance. That grazing areas will suffer permanent losses which would be unnecessary.

These factors are evident to the ongoing attack on those people who depend on the cattle business for their livelihood and it is bad enough that Bruce Babbitt, Secretary of the Interior, will increase the grazing fees by the end of July and that will hurt the cattle and sheep industry as well. Further, there currently is pending legislation, H.R. 1603, which directly conflicts with those pre-established provisions in the Federal Land Policy and Management Act and will direct the government to manage federal lands for multiple uses. Another effort to further hinder the cattle and sheep business.

A That it doesn't matter whether these people are non-Indian or Indian, ranchers and sheepherders are feeling the impact of this continuous assault towards the ranching community and these issues need the direct attention if they are to retain their rights in order to preserve and protect their livelihood.

All to often it is the Indian rancher and sheepherders that are forgotten and it should be understood that they are struggling in an effort to retain their business in order to stay on top only most of the time when they do get ahead several steps they are shoved back about 10 paces but it is not only the Indian but the non-Indian ranchers as well.

LETTER NO. 4 **Paula Brady, Kathleen Halley** **no date**

Response A

Comment noted. The Mitigation Plan (pages 35-37) includes measures to mitigate livestock water sources and protect water rights, thereby eliminating the need to reduce AUMs.

It has also been established that this operation may effect the seasonal migration of almost 4,000 mule deer as well as other wildlife species.

It is bad enough that this past winter there was an estimated loss of 10,000 head of deer in regards to severe winter conditions and any future loss would greatly distort the seasonal hunting conditions, not only for the avid hunter but for those Native People of the Western Shoshone Nation who enjoy feasting on deer and using the hide for the making of buckskin gloves, moccasins, dance outfits, drum covers and so forth.

B And let us talk about the water table and its effect, not only on the wildlife but its natural state of being which will not be restored to its fullest extent within a hundred years, despite a 95% recovery within 18 years. The impact that this will have, not only towards the wildlife species but the impact it will have on the livestock and vegetation within the whole area is a great threat.

Response B

The Mitigation Plan provides for augmentation of stream flows and replacement of water sources at impacted seeps and springs to mitigata potential impacts to wildlifa, livestock, and vegetation.

Then let me bring it to you attention the Article on page S-6 under Culture Resources and Ethnography and I quote: "Based on data presented the technical report, consultation with the Western Shoshone regarding the Proposed Expansion of Newmonts Gold Quarry Mine, Carlin, Nevada (Deaver 1993), the Bureau of Land Management has determined that there would be no direct or indirect impacts to Newe/Western Shoshone traditional values, practices, properties or human remains and cultural items as a result of the Proposed Actions." end of quote.

This statement reflects as well the ongoing attempt to further delete the Traditional Lands of the Western Shoshone Nation.

Let it be further explained that a Presidential Executive Order, on May 10th of 1877 did establish 521.61 acres of land 25 miles north of Carlin, Nevada on Coyote Creek, within the Maggie Creek area and that land was to be the Carlin Farms Reservation of the Shoshone People.

That in 1879 these same lands by way of direct testimony were terminated by Executive Order and the people relocated to the Duck Valley Indian Reservation in Owyhee.

These lands became vacant and no effort has been made to this date to reestablish these lands as to belonging to the Shoshone People.

C Therefore as a measure of safeguard the 521.61 acres of land that made up the Carlin Farms for the Native People should hereby be designated as an Historic Landmark in representation of the Western Shoshone Nation, who to this date have no legal declaration within the Federal Register, any historic landmarks that establishes a historical factor within those boundaries of Article V of the Ruby Valley Treaty of 1863.

Response C

Comment noted. Designation of areas as historic landmarks is beyond the scope of the EIS.

This measure of safeguard is only to ensure that these properties will forever stay intact in their natural state in the order of preservation and protection within the National Historic Preservation Act of 1966.

As well, the Western Shoshone Historic Preservation Society does proclaim that the South Operations Area Project in a manner of respect should limit its expansion so as not to further impose or aid and assist the ongoing effort to destroy the cattle or sheep business, to destroy the wildlife habitat, the water resource or the vegetation.

The Traditional people of Elko County, both non-Indian and Indian, who have been here for a life time, who built this community up from scratch through the allowance of the Ruby Valley Treaty of 1863 and the Western Shoshone Nation and did establish this as a ranching community for both cattle and sheep, do need to regain a legal foothold in a political sense in order to further preserve and protect their traditional livelihood.

The Western Shoshone Historic Przservation Society believes that the traditional values of the non-Indian and the Western Shoshone need to be reinstated so that the history of Elko, Nevada will have a greater impact on our youth and future generations.

Elko County¦ Elko, Nevada is not a thriving metropolis by no means and there has been little or no effort made to enhance the traditional values of the Western Shoshone Nation.

Submitted by the Western Shoshone Historic Preservation
Society on June 23rd, 1993

Executive Board of Trustees: Paula Brady
Kathleen Halley
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Consultant: Larry Kibby

range line between ranges 44 and 45 west of the sixth principal meridian, in the Territory of Dakota, intersects said boundary line; thence east along said boundary line 5 miles; thence due south 5 miles; thence due west 10 miles; thence due north to said boundary line; thence due east along said boundary line to the place of beginning, be, and the same is hereby, withdrawn from sale and set aside as an addition to the present Sioux Indian Reservation in the Territory of Dakota.

This order of reservation to continue during the pleasure of the President.

CHESTER A. ARTHUR.

Winnebago Reserve.

[Area, 40 square miles; established by act of February 21, 1863 (12 Stat., 658), June 22, 1874 (18 Stat., 170), and treaty March 8, 1865.]

NEVADA.

Carlin Farms Reserve.

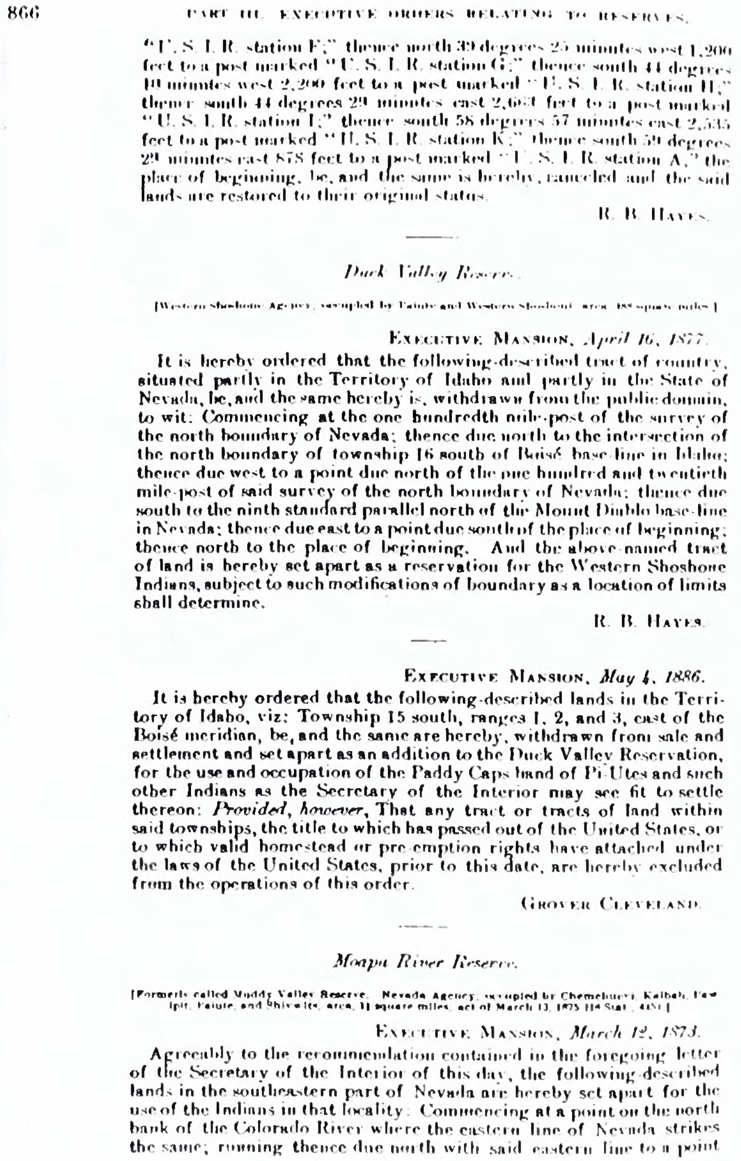
EXECUTIVE MANSION, *May 10, 1877.*

It is hereby ordered that all that tract of country in the State of Nevada (known as the Carlin Farms), lying within the following boundaries, viz: Beginning at the quarter-section corner post on the west boundary of section 6, township 35 north, range 52 east, Mount Diablo meridian; thence south 62 degrees 56 minutes east 4,229¼ feet, to a post marked "U. S. I. R. station B;" thence north 2 degrees 4 minutes east 1,928 feet to a post marked "U. S. I. R. station C;" thence north 3 degrees 9 minutes west 2,122 feet to a post marked "U. S. I. R. station D;" thence south 85 degrees 8 minutes west 3,000 feet to a post marked "U. S. I. R. station E;" thence north 52 degrees 32 minutes west 4,046 feet to a post marked "U. S. I. R. station F;" thence north 39 degrees 25 minutes west 1,200 feet to a post marked "U. S. I. R. station G;" thence south 44 degrees 10 minutes west 2,200 feet to a post marked "U. S. I. R. station H;" thence south 44 degrees 29 minutes east 2,663 feet to a post marked "U. S. I. R. station I;" thence south 58 degrees 57 minutes east 2,535 feet to a post marked "U. S. I. R. station K;" thence south 59 degrees 29 minutes east 878 feet to a post marked "U. S. I. R. station A," the place of beginning, containing 521.61 acres, be, and the same hereby is, withdrawn from sale or settlement, and set apart as a reservation for the Northwestern Shoshone Indians.

R. B. HAYES.

EXECUTIVE MANSION, *January 16, 1879.*

It is hereby ordered that the order of May 10, 1877, setting apart as a reservation for the Northwestern Shoshone Indians of Nevada the following-described lands (known as the Carlin Farms), viz: Beginning at the quarter-section corner post on the west boundary of section 6, township 35 north, range 52 east, Mount Diablo meridian; thence south 62 degrees 56 minutes east 4,229¼ feet to a post marked "U. S. I. R. station B;" thence north 2 degrees 4 minutes east 1,928 feet to a post marked "U. S. I. R. station C;" thence north 3 degrees 9 minutes west 2,122 feet to a post marked "U. S. I. R. station D;" thence south 85 degrees 8 minutes west 3,000 feet to a post marked "U. S. I. R. station E;" thence north 52 degrees 32 minutes west 4,046 feet to a post marked



"U. S. I. R. station F;" thence north 39 degrees 25 minutes west 1,200 feet to a post marked "U. S. I. R. station G;" thence south 44 degrees 10 minutes west 2,200 feet to a post marked "U. S. I. R. station H;" thence south 44 degrees 29 minutes east 2,663 feet to a post marked "U. S. I. R. station I;" thence south 58 degrees 57 minutes east 2,535 feet to a post marked "U. S. I. R. station K;" thence south 59 degrees 29 minutes east 878 feet to a post marked "U. S. I. R. station A," the place of beginning, be, and the same is hereby, canceled and the said lands are restored to their original status.

R. B. HAYES.

Duck Valley Reserve.

[Western Shoshone Agency; occupied by Paiute and Western Shoshoni; area, 488 square miles.]

EXECUTIVE MANSION, *April 16, 1877.*

It is hereby ordered that the following-described tract of country, situated partly in the Territory of Idaho and partly in the State of Nevada, be, and the same hereby is, withdrawn from the public domain, to wit: Commencing at the one hundredth mile-post of the survey of the north boundary of Nevada; thence due north to the intersection of the north boundary of township 16 south of Boisé base-line in Idaho; thence due west to a point due north of the one hundred and twentieth mile-post of said survey of the north boundary of Nevada; thence due south to the ninth standard parallel north of the Mount Diablo base-line in Nevada; thence due east to a point due south of the place of beginning; thence north to the place of beginning. And the above-named tract of land is hereby set apart as a reservation for the Western Shoshone Indians, subject to such modifications of boundary as a location of limits shall determine.

R. B. HAYES.

EXECUTIVE MANSION, *May 4, 1886.*

It is hereby ordered that the following-described lands in the Territory of Idaho, viz: Township 15 south, ranges 1, 2, and 3, east of the Boisé meridian, be, and the same are hereby, withdrawn from sale and settlement and set apart as an addition to the Duck Valley Reservation, for the use and occupation of the Paddy Caps band of Pi-Utes and such other Indians as the Secretary of the Interior may see fit to settle thereon: *Provided, however,* That any tract or tracts of land within said townships, the title to which has passed out of the United States, or to which valid homestead or pre-emption rights have attached under the laws of the United States, prior to this date, are hereby excluded from the operations of this order.

GROVER CLEVELAND.

Moapa River Reserve.

[Formerly called Muddy Valley Reserve. Nevada Agency; occupied by Chemehuevi, Kaibab, Pawipit, Paiute, and Shivwits; area, 1½ square miles; act of March 3, 1875 (18 Stat., 445).]

EXECUTIVE MANSION, *March 12, 1873.*

Agreeably to the recommendation contained in the foregoing letter of the Secretary of the Interior of this day, the following-described lands in the southeastern part of Nevada are hereby set apart for the use of the Indians in that locality: Commencing at a point on the north bank of the Colorado River where the eastern line of Nevada strikes the same; running thence due north with said eastern line to a point

Letter #5

INTERMOUNTAIN WATER ALLIANCE

721 Second Avenue
Salt Lake City
Utah
84103

June 25, 1993

Bureau of Land Management
Elko District Office
att: David Vandenberg, EIS coordinator
P.O. Box 831
Elko, Nevada 89803

Dear Mr Vandenberg:

Concerning the Draft EIS Newmont Gold Company's South Operations Area Project:

I have read the Environmental Impact Statement concerning this proposal and my comments will mainly address the aquatic impacts of this proposal.

On the whole, the EIS is the first document that I have read in 15 years of impact documentation in which the loss of habitat is equated to loss (death) of animals with some deaths forever deleting the fauna from a habitat. Under such premises (and this premise was stated time and again) the full impacts of the (any) project can begin to be assessed and proper mitigation measures might be taken. The preparers of this Newmont Gold Company's proposal are to be complimented for understanding this premise and acting on mitigation in a very responsible manner.

Over the years I have inventoried many of the aquatic resources in northeastern Nevada for mollusks, leeches, and amphibians. I am impressed with the inventory of the springs in the region as reported in the Draft EIS. I would certainly appreciate a findings of the survey of these springs with respect to mollusk, leeches, and amphibians. Is it possible to do so? The following may seem applicable to this request:

Balleau Ground water Consulting. 1992.
French, Cooper and Chapman, 1992
Gilber, Tunney, and Jordan, 1992
Hulen, 1988
JBR Consultant Group, 1992a, 1992b, 1992e, 1992f, 1992g, 1993.
McGuire, 1992
Rawlings and Neel, 1989.
Zimmerman, 1992a, 1992b, 1992c.

The frustration is that much work is done in the inventory and this work never gets published and hence it is largely unavailable for the interested public. Hence this type of work falls into common knowledge (albeit locally) and the interested public may be repeating much of this work in future and unrelated efforts.

-2-

In the many years that I have been examining the aquatic sources, one problem keeps occurring in regions that have developments. Projects appear in the middle of a road and no roads seem to connect point A to point B except in the gold mining regions, one is forces to drive through the operations. This has been a severe handicap in following USGS maps to locate water resources.

A Although the Draft EIS mentions how to get to upper James Creek via several numbered BLM roads, this does not alleviate the confusion when one looks at a USGS map and plans a route to the destination. It seems that the land developers and the BLM could do better in preparing bypass routes (they do not have to be graded) and that the companies could provide the postings (they may not be shot up so fast under these conditions). Furthered impairments to these aquatic surveys has been the NO TRESPASSING SIGNS. These signs should be applicable only to the lands away from the roads and not at the gates, etc with the implication that the road is private (it may well be, but it may not be).

The remainder of the comments are page specific:

B Page 2-59: Agency Preferred alternative: "This pipeline would be constructed to handle dewatering flows greater than Maggie Creek's bankfull capacity of approximately 80cfs during the last several years". Comment: Is it intended to have a constant flow through the year in Maggie Creek or will seasonal flows (low in late summer) still occur? For a river to manifest the full range of habitat opportunities for aquatic animals, seasonal flows provide the necessary backwaters and ephemeral wetlands whereas constant maximum flows provide the effects of an irrigation ditch.

Page 3-26: "During the 1913-24 period of record, average daily discharge of lower Maggie Creek was 23.2 cfs (French et al, 1990)." Could these records be sent to me (see above request). Did the stream ever dry up during this period?

C Page 3-26. "Maggie Creek flow below the canyon since about 1990 may have been reduced by groundwater drawdown that has developed around the Gold Quarry Mine area as a result of existing groundwater pumping". Does this imply that Maggie Creek was flowing permanently until this time? I suspect that the agricultural use of water and livestock impacts of the riparian habitats including the destruction of willows has made greater impacts to the lower Maggie Creek flows. See also Page 3-27: "Flow at the gaging station typically shows a sharp decline in April or May corresponding to the start of irrigation on the Maggie Creek Ranch upgradient from the Carlin Springs (Newmont 1992f)." Just when has Maggie Creek become a temporary river?

D Page 3-69. Reptiles and amphibians. "Most reptiles and amphibians in the study area would be considered common, but the distribution of western toad and spotted frog is uncertain and being investigated". What is the outcome of this investigation? Ruthven and Gaige (1915) (copy enclosed) found Leopard Frogs, Spotted Frogs, Western (boreal) toads and California Tree Frogs very common near Carlin in 1912. Today the Leopard Frogs, spotted Frogs, Western Toads are either exterminated or very rare (one breeding pair of western toads in Marys Creek). The Tree Frogs were found in Pinon Range, James Creek, and Mary Lake. Are these frogs still found in this area? If they are still found in James Creek, this population should be monitored throughout the project and post-project "rebound" time.

LETTER NO. 5 **Peter Hovingh** **6-25-93**

Response A

Maps are updated continuously at district BLM offices to provide the most recent road and access information. The BLM has limited information and no jurisdiction on private road systems.

Response B

Flow in Maggie Creek during the dewatering period is expected to vary seasonally in a manner similar to baseline conditions; however, the total magnitude of stream flows would be greater due to the continuous addition of excess mine water until the end of year 2001. The lowest expected flow in Maggie Creek during the dewatering discharge period would be approximately 10,000 gpm (22 cfs); this rate would increase gradually during the period of dewatering (see Agency Preferred Alternative in this FEIS).

Response C

Continuous flow records for Maggie Creek are for the periods 1913-24 and 1989 - present. During these time periods, Maggie has been intermittently dry, especially during the years of 1989-92.

Conditions of no flow in lower Maggie Creek since about 1988 may be a direct result of several factors, including low precipitation. Agricultural water use, livestock impacts on riparian habitat, and groundwater pumping for mining purposes also may affect flow in Maggie Creek. The Maggie Creek Watershed Restoration Project would improve habitat and water retention in the drainage (see Mitigation Plan).

Response D

Field surveys were conducted by Newmont's consultants for reptiles and amphibians in streams and wetlands in the South Operations Area. Spotted frogs were found in middle Maggie Creek, lower Coyote Creek, and lower Little Jack Creek. In 1992, three frogs were observed at springs on the west side of Fish Creek Mountain by BLM specialists. All other information concerning reptiles and amphibians is contained in the DEIS.

-3-

Page 3-70,71: The molluscan assessment is a new feature to EIS statements and hopefully the BLM will continue this type of surveys. Previously I sent a letter addressing the California Floater bed east of Carlin (Note correction as east of Carlin and west of Carlin Canyon Narrows. I have looked long and

E hard at many locations in the Great Basin of Utah and Nevada, and this is the first bed of mussels I have found. In the meanwhile, the mussels no longer occur at many of the historic records suggesting an extensive reduction in numbers. Pollution, alteration of streams to encourage predation by gulls, herons, muskrats and crayfish, and declines in native fish which act as hosts to the mussel larvae (these larvae require an amino acid that they obtain from fish for some 2-6 weeks) are some aspects of their decline. These mussels were considered very common at Carlin in the Humboldt River by Walker (1916) (in your references) and now are very rare in the Humboldt River.

Page 3-72: Table 3-28. Category 2 species, as stated, may warrant threatened or endangered status, but sufficient biological information is lack to support this designation. However, this is a Catch-22 situation and can be viewed as a "cop-out" in designation of declining populations in the face of an unpopular act here in the west. By the time the information is available, some species have become extinct!

F Page 3-76: Amphibians. Spotted Frogs. See comments on Page 3-69. This species was very common near Carlin and is no longer found at this location. Where (what locations) was this frog found? How many breeding adults (rule of thumb: one egg mass= one breeding pair). In Utah, adults are observed in habitats in which no breeding occurs and along the Wasatch Front some 500 pairs occur in widely disjunct populations suggesting a major destruction of habitat. Is this also observed in Nevada?

Page 3-97: Access: see comment on top of Page 2. A real frustration!

G Page 4-8: Will impacted springs, seeps, and streams actually recover or will their underground water courses be forever blocked during the desiccation?

H Page 4-9: If it may take nearly 100 years for flows to completely recover to pre-mining conditions, how long is the monitoring scheduled?

I Page 4-9: Will not the mre presence of the pit-lake reduce flows to springs? Will the bottom: of the lake be anaerobic with production of hydrogen sulfide? What kind of fence will be used to keep amphibians from entering this lake (and never surviving?)?

J Page 4-14: Would this pit disrupt the warm flows to the springs near Carlin, consequently dry up the aquifer, and destroy this aquifer? Where is the ground water recharge area for the warm springs (as #52?). Will not this lake act as a recharge region for new springs several hundred miles away?

Page 4-20: Semiannual surveys of selected spring. Very good survey work as many springs are ephemeral and this must be recognized in any assessment.

K Page 4-21: "Quality of spring and seep water is not expected to be affected." If the water flows decrease, would not this water dissolve more solutes and hence become more saline?

Response E

California floater larvae are not obligately linked to only native fish. Larvae of California floaters also utilize non-native fish as hosts during the parasitic stage of their life cycle. Mitigation measures for Maggie Creek would improve habitat and consequently would benefit the California floater (see Mitigation Plan, pages 6-14).

Response F

Although spotted frogs were found in the EIS Study Area, no inventories of egg mass numbers were conducted. Studies of spotted frog distribution were conducted in summer after the spring egg-laying period and were intended to determine presence of species. The Mitigation Plan (pages 6-14) includes measures that would benefit spotted frogs and other species through improved habitat.

Response G

It is expected that springs, seeps, and streams would recover over time as recharge gradually supplies water to the lowered groundwater system. During this recovery period, natural discharge would be lower than premining conditions until recharge and discharge attain a state of equilibrium. Site-specific conditions may result in variable recoveries; however, the Mitigation Plan (pages 19-42) has provisions for monitoring and mitigation until adequate recovery has occurred.

Response H

The monitoring period would be as long as necessary to adequately demonstrate that premining conditions have been nearly attained or that no significant residual hydrologic impacts are occurring. Monitoring of water resources is described in the Mitigation Plan (pages 19-42).

Response I

Although unlikely, some springs or seeps in close proximity to the Gold Quarry pit may have reduced flows because of the continual evaporation of water from the pit lake (predicted evaporation rate of 390 gallons per minute, gpm). This effect on long-term groundwater levels, however, should be minor and can be equated to a pumping well in the pit area that would be pumping 390 gpm.

According to model results performed by PTI (1992) for the Gold Quarry pit lake, the physical circulation of the pit lake would provide adequate oxygen to overcome the biological and chemical oxygen demand, resulting in oxygenated waters to the base of the lake throughout the year (see DEIS, Appendix E).

The pit rim would be fenced with 4-strand barbed wire. This fence would not eliminate amphibian access.

Response J

As stated in the DEIS (page 4-23), none of the thermal springs in the study area are located within the 10-foot drawdown contour. Therefore, no significant effects on flow to these deep groundwater flow system springs are predicted based on the hydrological model, however, monitoring and mitigation would be conducted if necessary as outlined in the Mitigation Plan (pages 24-29). Recharge to the thermal springs is primarily from mountainous areas southwest of the South Operations Area. The Gold Quarry pit lake would not cause new springs to develop up to several hundred miles away because the water level in the pit would always be lower than or equal to premining groundwater levels.

Response K

Quality of water in springs and seeps is not expected to change significantly as a result of dewatering impacts because the groundwater flow systems that are sources of spring water should not be disturbed outside of the immediate mine pit area.

-4-

L Page 4-37: Further drying up of Humboldt River would be diastrous and could eliminate mussels in selected locations.

Page 4-45: Impacts on springs and seeps. Thanks for giving the detailed locations.

M Page 4-47: Potential mitigation and monitoring measures: Monitoring these springs is essential. I do not think that once a spring has become dry that your potential mitigation measures are justified. Hauling water by truck for livestock to a tank near site may be sufficient as the ecological value of the spring is no longer important.

N Page 4-72: James Creek. The frog Hyla regilla (California Tree Frog) was found in upper James Creek (See comments bottom of Page 2). Is this frog still found here?

O Page 4-76: "Assessment of the feasibility of creating shoreline wetlands for the Maggie Creek Ranch Reservoir". Any reservoir that draws down does not have a possibility for a shoreline wetlands that supports aquatic fauna.

Page 4-79: Proposed Action. Assessment of direct loss of habitat is accurate.

P Page 4-81: "Alteration of riparian habitats may benefit some certain wildlife species." This assessment is correct. On the other side, the long-term loss of fallen branches may contribute to additional declines of other species as riparian dependent rodents, shrews, and amphibians.

Page 4-81: "However, restored springs and seeps may be far enough waway from undisturbed springs that some relatively immobile species, such as amphibians or invertebrates, would not repopulate these sites for many years." Correct statement.

e 4-84: "There is a possibility that small isolated populations of some species of small mammals, reptiles, amphibains, or invertebrates associated with springs could be irretrievably lost if springs dry up." Correct assessment.

Q Page 4-85: "Baseline flow data show that the lower reaches of Maggie and Susie creeks are intermittent, with dry portions during low-flow periods." Was this true in 1913?

R Page 4-87: Could the mining operations forever alter the aquifer that feeds the warm spring no.52? Note that warm water means that the aquifer is at one point deep or passes over a "hotspot". What is the recharge area for this spring and what is the route of the aquifer?

S Page 4-87: Mitigation plan for the spring snails certainly is necessary. I hope that this plan will not fall under Catch-22 (not enough is known and hence nothing can be done).

T Page 4-90: California flater. See comment on top of page 3. Mitigation must include studies of both the mussel population, age class, and distribution; larvae (glochia) production and distribution; and larvae (glochidia) fish host; fish host population, age class and distribution.

Response L

Under present conditions, flow in portions of the Humboldt River declines to very low flow rates or possibly even ceases in some areas during the fall when precipitation is low for several successive years. Studies indicate that diversity and biomass of organisms such as aquatic invertebrates may be temporarily reduced following a no-flow event, but that organisms would ultimately recolonize unoccupied habitat. The Mitigation Plan (pages 43-44) provides for measures to accelerate recolonization, and the potential impact of no flow events would also be mitigated, in part, by the creation of a wetlands complex incorporating some perennial aquatic habitat.

Response M

Mitigation measures to augment water flow for springs and seeps are described in the Mitigation Plan (pages 24-29).

Response N

At the time baseline studies were conducted, tree frogs were not found in James Creek.

Response O

Your statement about creating shoreline wetlands for the Maggie Creek Ranch Reservoir probably is accurate because the reservoir would likely be drawn down for a period sufficient to prevent development of wetland conditions.

Response P

Comment noted.

Response Q

Flow records for 1913 are available only for Maggie Creek. During the period 1913-24, conditions of no flow were reported. Conditions of no flow in the lower reaches of Maggie and Susie Creeks have also been reported from 1988 to the present.

Response R

Warm spring no. 52 located approximately 2 miles southwest of the town of Carlin is located outside of the predicted 10-foot groundwater drawdown contour. In addition, warm or hot water springs generally are indicative of deeper groundwater flow systems. The recharge area for these springs near Carlin is believed to be primarily the mountain areas southwest of the South Operations Area.

Response S

BLM considers this spring (spring no. 52) a sensitive area because of the springsnails, therefore, the spring has been incorporated into the Mitigation Plan (page 47). Well PAL-1 in close proximity to the springs would be monitored to determine if additional study or mitigation is necessary.

Response T

Mitigation for California floaters in Maggie Creek would result from the Maggie Creek Watershed Restoration Project. In addition, further studies and mitigation measures would be required if monitoring indicates that dewatering impacts occur further up middle Maggie Creek than presently predicted (see Mitigation Plan, pages 46-47).

-5-

U Page 4-92: Impacts on springs by dewatering. Perhaps springs that are to be impacted by dewatering should be fenced to keep livestock from totally destroying the vegetation process (herbage and seeds). The smaller the spring, the more livestock destroy the habitat.

V Page 4-114: What is the township/range/section coordinates for these two new springs from dewatering the Betze Mine? Such new springs are usually depauperate with respect to mollusks, leeches, and amphibians and fish. Are there any studies occurring on the colonization of these springs with respect to plants and animals. I have observed that by addition of water to any desert region, numerous aquatic plants immediately colonize the new wetlands, especially cattails and rushes.

W Page 4-129: Streams with Lahontan cutthroat should have fenced riparian habitats.

Appendix A: Spring and seep inventories. These are excellent contributions to the environmental impact statement. An improvement would include information from the aquatic fauna survey . What fauna (mollusks, amphibians, fish) were found in what springs?

Thus over many years I have found that the Humboldt River and the lower reaches of its tributaries have experienced a sharp decline and even extermination of its amphibians and mussel inhabitants in comparing todays fauna with reports from the literature. There are remnant species as freshwater limpets (Ancylidae) and clams (Sphaerium) that distinguish Humboldt River from the Bonneville Basin rivers and perhaps from the Snake River drainage. Three mussels are reported for the Humboldt River: Margaritifera falcata (probably extinct since it needs the Salmon for larval hosts), Gonidea angulata, and Anodonta californiensis. The species east of Carlin (west of the Carlin Narrows) is more than likely Anodonta although it could possibly be Gonidea . This needs to be confirmed. Regardless of species, the Carlin mussel bed needs to be protected!

And concerning the roads in the region which may or may not be public roads (for example, the roads to James Creek): It seems that under R.S. 2477 anyone with some private investment can claim a road as public over public lands to reach that private investment. Conversely, the courts have held that the public has access to public lands over these same roads.

Again in ways that I have not seen before, this Draft EIS addresses issues and assesses the problems of these issues is rather accurate manner. The BLM is to be complimented for its efforts.

Sincerely,

Peter Hovingh
Peter Hovingh

Note: the gold mining at Stonehouse (west of Battle Mountain) dried up springs inhabited by both western toad and spring snails (unknown species)

Response U

The Mitigation Plan includes fencing of all seeps and springs within the predicted impact area (see Mitigation Plan, pages 17-18).

Response V

The springs that have recently developed south of the TS Ranch Reservoir are located generally in the southeast corner of Township 35 North, Range 49 East. Additional information about these springs is located on pages 15-17 of the Mitigation Plan.

Response W

The Mitigation Plan provides for fencing to exclude livestock from Little Jack, Coyote, and portions of Middle Maggie Creek (see Mitigation Plan, pages 6-14).

Letter #6

P.O. Box 697
Carlin, NV 89822
July 1, 1993

David Vandenberg, EIS Coordinator
Bureau of Land Management
Elko District Office
P.O. Box 831
Elko, NV 89803

Dear Mr. Vandenberg,

After reading the Environment Impact Statement draft, I am deeply concerned with the plan. There are numerous negative references to water, springs, riparian, wetlands, etc., all of which are necessary to every person living in this area, either for domestic reasons or for livestock use.

A The statement on page 4-48, "Improvement of stream conditions, such as limiting livestock use adjacent to channels and methods described for channel stability, also could enhance of natural streamflow". Why should one person's way of life be set aside for the dewatering situation?

The indirect impact on other resources caused by soil disturbances from the proposed action include:

Decreased water quality due to sedimentation from exposed slopes.

Decreased vegetative productivity due to soil loss of inadequate cover soil depth.

Decreased hydric soils supporting wetland and riparian vegetation.

Decreased land-use utility.

Why should the gold mine be allowed to disturb the water, soil, and environment, when others are reprimanded for overgrazing or off road travel?

LETTER NO. 6 **Rachel Jones** **7-1-93**

Response A

As described in the Mitigation Plan (pages 6-14), the Maggie Creek Watershed Restoration Project would improve stream side habitat on public and privately owned lands within TS Ranch and Maggie Creek Ranch grazing allotments.

A Seep and Spring Enhancement and Flow Augmentation Program, also described in the Mitigation Plan (pages 17, 18, and 24-29) would entail excluding livestock from the 25 potentially impacted seeps and springs (located in the TS, Mary's Mountain and Hadley Allotments). Fencing would only be done with the permission of the private landowner or leaseholder. In addition, the Mitigation Plan states that water would be provided outside the fenced areas through the use of regulated troughs.

B On page 4-91, the draft states, "Losses in AUM's coupled with uncertainty regarding stock water availability may result in permanent reductions in stocking rates on some grazing allotments. The proposed disturbance on the Mary's Mountain allotment would be within the mine area that is already fenced to preclude the livestock grazing; thus there would be no stocking rate adjustment". However, on page 4-93, Table 4-18, the Melvin Jones Ranch is to take a 58% reduction. Everyone I speak to states that this is for mitigation. The word mitigation means "to make milder, less rigorous, or less painful". The question is for whom? Surely not the Jones Ranch!

C In my opinion your draft fails to completely answer questions about what will become of these parts of Elko and Eureka Counties and how our life will be impacted by the dewatering project. If it is going to take an estimated 100 years to regenerate the water in this basin, the area will be a desolate disaster.

I would very much like to object to this plan on all phases. The dewatering, the loss of wildlife and its habitat, the destruction of native forage, wetlands, and grazing. And most of all a big entity is not entitled to take from smaller ones.

Please continue to keep me informed of Newmont's plans. I thank you for past efforts in this direction.

Sincerely,

Rachel Jones

Rachel Jones

Response B

With the exception of the TS Ranch operation, no adjustments to AUMs are expected to adjacent grazing allotments or ranches after implementation of Newmont's Mitigation Plan. The 58% reduction in AUMs in the Mary's Mountain Allotment identified in the DEIS was a result of the loss of stockwater sources. The Mitigation Plan provides for maintenance of water supply for livestock use (see Mitigation Plan, page 37).

Response C

As stated in the DEIS (page 4-14), most groundwater level recovery would occur within about 20 to 40 years after dewatering ceases. Complete recovery may take nearly 100 years; however, most impacts to water resources are predicted to be significantly reduced or eliminated within the 20- to 40-year period, or less. Newmont's Mitigation Plan provides for maintenance of water supply, augmentation of water (as necessary), and general habitat restoration of the Maggie Creek watershed (see Mitigation Plan, pages 6-14).

Letter #7

COMMISSIONERS
LLEE CHAPMAN
MIKE NANNINI
DALE PORTER
ROBERTA K. SKELTON
BARBARA WELLINGTON
GEORGE R.E. BOUCHER
COUNTY MANAGER
(702)738-5398

Board of County Commissioners
ELKO COUNTY COURTHOUSE
ELKO NEVADA 89801

July 13, 1993

Bureau of Land Management
Elko District Office
P.O. Box 831
Elko, Nevada 89801

Rodney Harris
District Manager

ATTN: David Vandenberg
EIS Coordinator

RE: Draft Environmental
Impact Statement
Newmont Gold Company's
South Operations Area Project

Dear Mr. Vandenberg:

Thank you for appearing before the Board of County Commissioners during their regular July 7, 1993 meeting to provide a briefing.

A The one specific factor the Board desired to be on record with relating to the dewatering operation whereby the subject water will enter the Humboldt River system is the water shall be subject to the Humboldt River Decree. The Decree is managed by the State Engineer of Nevada and any water such as that coming from the dewatering process should be subject to the Decree without separate or alternate consideration.

Please advise if there are questions or need for clarification of the County of Elko position.

Sincerely yours,

George R. E. Boucher

GEORGE R.E. BOUCHER
Elko County Manager

GREB/jw

LETTER NO. 7 **George R.E. Boucher** **7-13-93**

Response A

Comment noted.

Letter #8

United States Department of the Interior

BUREAU OF MINES
Western Field Operations Center
East 360 3rd Avenue
Spokane, Washington 99202-1413

July 12, 1993

Memorandum

To: David Vandenberg, EIS Coordinator, Elko District Office, Bureau of Land Management, Elko, Nevada

From: Supervisor, Environmental and Regulatory Analysis, Branch of Engineering and Economic Analysis

Subject: Review of Newmont Gold Company's South Operations Area Project Draft Environmental Impact Statement (EIS)

The Bureau of Mines concerns for this project continue to be the wise use and conservation of mineral resources. Minerals are a finite, nonrenewable resource. If we are to ensure that future generations will have the mineral supplies they need, we must ensure that today's actions do not foreclose opportunities to economically mine them in the future. Operational and reclamation plans should be designed to permit the future recovery of lower grade materials that may not be currently economic to mine. We discussed this issue of conservation of mineral resources in our initial response to BLM during the public scoping process for this action. Table 1-2 of the draft EIS shows our input under the title Operations, however, the sections of the EIS referenced in this table as addressing those concerns do not. Therefore, we wish to reiterate our concerns.

A We share Newmont's concern that backfilling the MAC Mine pit would reduce the likelihood of future recovery of the 70,000 to 80,000 ounces of gold known to exist in resources requiring a $400 gold price to be economical to mine. Removing the backfilled waste from the pit to mine the lower grade resources would add significantly to the cost of recovering the gold.

B Another issue that should be considered in the final document concerns the placement of waste rock that could cover low-grade resources. There is little difference between this issue and that of burying low-grade resources by backfilling an open pit. The mine plan in the draft EIS shows both the Tusc and MAC proposed waste rock disposal areas as being very close to the respective proposed pits. These waste piles could impede future expansion of those pits. The document gives no indication that these waste areas were explored for potential gold resources extending from the identified deposits in proposed pit areas.

LETTER NO. 8 **Burton B. Gosling** **7-12-93**

Response A

Comment noted.

Response B

The areas under the MAC and Tusc waste dumps were explored and deemed uneconomical by Newmont geologists.

C The final mineral resource conservation issue we are concerned about is the stockpiling of potential ore. We believe that if refractory ore can be stockpiled for anticipated economical recovery methods (roasting and bio-oxidizing), low-grade oxidized ore also could be stockpiled in anticipation of price increases. Once this subeconomic material is disposed of in the waste piles and reclaimed, its future recovery is very unlikely.

Thank you for this chance to resubmit comments. Please contact Michael Dunn, (509) 353-2700, if you have any questions about them.

Burton B Gosling
Burton B. Gosling

Response C

Waste rock disposal records maintained by Newmont would make future recovery of currently uneconomic material possible.

Letter #9

MAGGIE CREEK RANCH, INC.
P.O. BOX 1360
ELKO, NEVADA 89801
(702) 738-8259

July 6, 1993

Dave Vandenberg, EIS Coordinator
Elko District Office, Bureau of Land Management
P.O. Box 831
Elko, Nevada 89803

Dear Mr. Vandenberg,

The stockholders and management of Maggie Creek Ranch, Inc. would like to share our concerns with you concerning the EIS regarding the expansion of the Gold Quarry mining operation. We have four primary concerns.

A First, the potential reduction of stock water from springs, wells and seeps would be a great detriment to our ranching operation. We have implemented grazing plans and breeding programs which have been very costly and are long term in nature. If we are forced to cut back because of loss of AUM's we will suffer great loss in the coming years. We believe that a large part of our operation will be effected by the dewatering. Therefore, we feel that we should be guaranteed an adequate water supply before dewatering is begun.

B Second, in cooperation with the BLM and on our own private lands, we have been working to restore riparian areas on Maggie Creek and Suzie Creek. If they are allowed to dry up all of this work will be in vain. In future high water years, all of these areas will suffer severe damage because the plant community will be destroyed because of lack of water in the dry seasons of the year. We, therefore, feel that average stream flows should be maintained in all of Maggie and Susie Creeks.

Third, we are concerned of the long term impact that mineralization or cyanide contamination could have on the water table during and after the expansion of Gold Quarry. What guarantee do we have that this area will not be impacted the same way the Summitville, Colorado area was with Galactic Resources Ltd.'s mining operation. **C** Will the Humbolt River, Maggie Creek, and Susie Creek become damaged like the Alamosa and Conejos Rivers? We believe these questions should be answered with absolute certainty before the expansion continues. We also believe that Newmont Gold Company and the Bureau of Land Management should be equally liable if any mishaps occur because this plan goes forward without proper safeguards.

D Fourth, we are concerned, as I am sure other surrounding property owners are that the value of our real estate will diminish greatly during the life of this project. Just the uncertainty of the long term impacts would discourage prospective buyers should we decide to sell the ranch. It would also impare our ability to obtain credit. What protection of land values will Newmont offer the effected property owners?

Sincerely,

Wayne Fahsholtz
Vice President and General Manager

LETTER NO. 9 **Wayne Fahsholtz** **7-6-93**

Response A

With the exception of the TS Ranch operation, no adjustments to AUMs are expected to adjacent grazing allotments or ranches after implementation of Newmont's Mitigation plan.

Response B

Newmont's Mitigation Plan provides for augmentation of flow in area streams (Maggie and Susie creeks) if impacted by dewatering to maintain these surface water resources and associated vegetation (see Mitigation Plan, pages 30-34).

Response C

Monitoring and mitigation measures as outlined in this FEIS are required of Newmont for the South Operations Area Project to protect human health and the environment. A bond would be posted by Newmont with the State of Nevada to assure that proper reclamation and mitigation are performed. The Nevada Department of Environmental Protection (NDEP) has jurisdiction over use of cyanide as it relates to water quality issues (see Mitigation Plan, page 42). Reclamation of the South Operations Area Project would result in long-term protection of water resources (see Mitigation Plan, pages 59-67).

Response D

The Mitigation Plan contains comprehensive measures to prevent adverse impacts to adjoining private lands.

Letter #10

STATE OF NEVADA
DEPARTMENT OF WILDLIFE
1100 Valley Road
P O Box 10678
Reno, Nevada 89520-0022
(702) 688-1500
Fax (702) 688-1595

BOB MILLER
Governor

WILLIAM A. MOLINI
Director

July 12, 1993

Russell Dailey, Area Manager
Elko Resource Area
Bureau of Land Management
P.O. Box 831
Elko, NV 89801

RE: Draft Environmental Impact Statement, Newmont Gold Company's South Operations Area Project, Eureka County

Dear Mr. Dailey:

We appreciate the opportunity to review and provide comments on the subject document.

The description of the wildlife resources that could be impacted by the proposed action is accurate based on our knowledge of the existing wildlife resources. We have some concern relating to the potential impacts of the dewatering program on the riparian and aquatic resources in the vicinity of the proposed project expansion. The document makes a statement that "dewatering in the Carlin Trend could expand the overall area of ground water drawdown and extend the recovery of groundwater levels. Complete recovery of groundwater levels could take 100 years or more in the Carlin Trend." This issue concerns our agency very much. All fisheries and most wildlife resources are totally dependent on water in this area. Impacts to water resources would have serious implications on all fisheries and wildlife resources, not only on the Carlin Trend but elsewhere in the Region as well. Newmont has demonstrated their intent to resolve many issues relating to impacts from their mining activities on fish and wildlife in the vicinity of their present and past projects. We look forward to working with Newmont and the Bureau of Land Management to resolve the concerns related to the issue of the impacts of the dewatering on both fisheries and wildlife resources in the project area.

Specific comments from our review of the Draft Environmental Impact Statement are as follows: in Chapter 2 under the discussion of Reclamation, the stated goal is to create a mosaic pattern with three to four seed mixes that are adapted to different geomorphic and environmental settings. The document states that the

Russell Dailey
July 12, 1993
Page 2

reclamation work is intended to establish a self-renewing plant community that is at least equal to or exceeds the value of the vegetation that is presently at the site. Then under Soil Salvage, the document indicates that topsoil salvage efforts will provide adequate topsoil to cover the reclamation sites with 6 inches of topsoil. We question whether 6 inches of topsoil will be adequate to support the goal of establishing post mining vegetative communities that will be beneficial to wildlife. Many shrub species preferred by the wildlife that presently inhabit the area require deeper soils. We would suggest that an effort to salvage adequate topsoil to permit 12 inches to be utilized on reclaimed sites be considered when salvaging topsoil. **A**

B In Table 2-11, Seed Mixtures for Dry and Mesic Sites - South Operations Area, we would like to suggest the inclusion of bitterbrush to the shrub component of the seed mixture. Experience with planting bitterbrush and sagebrush has shown that these two species require different handling than other plant seeds. The sagebrush should be broadcasted onto the surface of the reclamation site and then rolled or pressed into the soil to achieve firm contact with the soil. Bitterbrush should be seeded separately or in separate rows if a drill seeder is used.

In Chapter 3 in the discussion on the Terrestrial Wildlife resources, the document indicates that the Area 6 mule deer herd is estimated to have 19,900 animals. This estimate will have to be updated following the severe winter of 1992-93. The Area 6 mule deer herd was heavily impacted by the deep snow and long periods of cold weather. As a result of the extremely poor habitat conditions on winter ranges, compounded by the severe winter weather conditions, Area 6 experienced a record die off of deer. An estimated 71% of the fawn portion of the population died during the winter. A full assessment of the die off in the adult segment will not be made until the spring of 1994 though a preliminary evaluation estimates the population at 13,673. Deer management areas with better range conditions did not experience the same level of mortalities as Area 6 during the winter of 1992-93. **C**

In the same section, the discussion indicated that mule deer movement down the west flank of the Tuscarora Mountains was influenced by habitat modification as a result of fires. The text also states that mine development may have also contributed to the change. The obvious shift in deer migration occurred in the late 80's. It was particularly noticeable after the improvements to the Newmont haul road, the construction of the Barrick access road and the expansion of the mining activity in Boulder Valley. There is no doubt that fires have lessened the quality of deer habitat on the west side of the Tuscaroras, but we feel the shift in deer movement has been in direct response to the increase in mining activity in Boulder Valley. **D**

LETTER NO. 10 **Rory E. Lamp** **7-12-93**

Response A

The Mitigation Plan would require Newmont to remove and stockpile all practicably available topsoil (see Mitigation Plan, page 60).

Response B

The Mitigation Plan (pages 61-64) has refined Table 2-11 to include bitterbrush. Appropriate seeding techniques would be used.

Response C

The South Operations Area is located within the Nevada Department of Wildlife's (NDOW) Management Area Six. Mule deer is the most abundant big game species in this management area. In the fall of 1992, an estimated 19,900 mule deer, or about 11 percent of Nevada's statewide mule deer population, were present in Management Area Six (Hess 1992). More than 5,000 mule deer died during the severe 1992-1993 winter, reducing the estimated population to less than 14,000 (see Errata, Chapter 3 of this FEIS).

Response D

Both activities, mine development and wildfires, have caused shifts in mule deer migration routes. Neither has been identified as being more important than the other in the DEIS. The Mitigation Plan (page 56) provides that during 1994-1995, Newmont would seed 800 acres of mule deer transition range on public land on the western side of the Tuscarora Mountains at locations to be determined in consultation with the BLM.

Russell Dailey
July 12, 1993
Page 3

E In Figure 3-12, Mule Deer and Pronghorn Habitat, the map indicates that the South Tuscarora Mountains north of the Carlin Mill site is Crucial Deer Summer Range. This habitat also serves as intermediate habitat, particularly during the fall and early winter. Deer will stay in these areas until heavy snow forces them to move south into the Dunphy Hills or other southern winter ranges. By staying north in more productive ranges, the additional time feeding on higher quality forage allows them to improve their body condition before being forced onto the poor quality winter ranges by heavy snows. Remaining on these intermediate areas longer also delays the time that deer arrive onto the winter ranges, which alleviates pressure on the winter ranges.

F In Chapter 4, under each section there is a discussion on the Potential Mitigation and Monitoring Measures. We are unsure whether this means that each one of the measures discussed will or may be implemented. This concept should be clarified so that an accurate picture of the environmental consequences of the action can be obtained. If some or all of the measures will be implemented, how will the decision be made as to which measures will be selected? This should be included in the discussion in the EIS.

G In the Riparian Areas and Wetlands we suggest that additional measures to mitigate potential impacts on wetlands and riparian areas could be considered. This could include riparian fencing or easements to allow for streambank vegetation improvement along middle and upper Maggie Creek, Susie Creek and other stream sites that can be rehabilitated in the vicinity of the project area.

H In the Terrestrial Wildlife Section, under Potential Mitigation and Monitoring measures, we strongly recommend that all of the mitigation measures for the new haul road be implemented. Without these mitigation measures, this action as proposed will provide a serious threat to migrating deer. We would be very concerned for the continued existence of this segment of the Area 6 deer herd if all of the mitigation measures proposed are not implemented.

I We also support off-site mitigation efforts for deer and antelope habitat being disturbed by mining on public land. We are very interested in being involved in mitigation benefit to wildlife. We feel that any discussions of off-site mitigation projects should have clearly defined objectives to yield benefits to wildlife.

In Chapter 4, under Water Resources, the section on Residual Adverse Effects, the text discusses the Gold Quarry pit. There is

Response E

Please refer to the discussion of mule deer migration on pages 3-62 and 3-63 of the DEIS. Page 3-62, column 2, paragraph 5, has been revised to:

"Timing and duration of the fall migration are primarily a function of climatic conditions. Snow accumulation in summer range initiates southward migration. In mild winters, or during winters with late accumulations of snow, mule deer linger in summer and transitional range to take advantage of...." (see Errata, Chapter 3 of this FEIS).

Newmont would also conduct reseeding on 800 acres of mule deer transition range on public lands.

Response F

See Newmont's Mitigation Plan for the mitigation and monitoring measures that would be implemented for the South Operations Area Project.

Response G

Fencing riparian areas to mitigate impacts on riparian areas and wetlands is included in the Mitigation Plan (pages 6-14).

Response H

The Mitigation Plan (pages 49-56) includes mitigation measures associated with the North Area Haul Road. The northern portion of the North Area Haul Road has been redesigned to facilitate movement of mule deer across the haul road. The redesign incorporates staging areas for deer. Cut and fill slopes would be constructed at a maximum of 2h: 1v, and the haul road alignment has been slightly modified to minimize the number and size of cuts needed. Travel restrictions would also be implemented to minimize conflicts with migrating deer.

Response I

The Mitigation Plan (pages 56-57) includes off-site mitigation measures for deer and antelope habitat, as discussed in Response D above.

Russell Dailey
July 12, 1993
Page 4

J a potential to design the pit so that following mine closure, a recreational facility remains. The pit lake would be nearly a mile wide. This may have some potential for a recreational fishery. Has this option been considered?

K In the section on Soils, under the discussion on Potential Mitigation and Monitoring Measures, several of the proposed mitigation activities would appear to be very well designed to ensure a productive site following the end of the mining activity. Several of the measures are designed to increase the topographic and geomorphic character of the reclaimed sites. This should increase the plant diversity thereby providing a more suitable site for wildlife once mining has ended. We would like to reiterate our belief that the topsoil depth is very important to the success of shrub seedings. It might be interesting to develop some test plots using the two different soil depths to determine if the depth is that important.

L In the Section on Vegetation, under Potential Mitigation and Monitoring Measures, we would support the decision to delete crested and pubescent wheatgrass and substitute native species as a mitigation measure. We are not opposed to the use of non-native species in the seed mix and under certain circumstances we support their use. We are interested in providing the best available habitat for wildlife after the mining has ceased.

M In addition, the two years of rest that are suggested as a mitigation may not be adequate to allow the vegetation to become established well enough to be grazed. We would suggest as an alternative that livestock grazing be prevented on the reclaimed sites until the sites are capable of supporting grazing activity without causing damage to the vegetative resource.

N In the Section on Terrestrial Wildlife, under the discussion of the Consequences, the text indicates that the number of mortalities of wildlife as a result of contact with process solutions should increase. If the wildlife protective measures required by the Industrial Artificial Pond Permit are adequately maintained the number of wildlife that come in contact with lethal process solutions should decrease.

O In the same section on Terrestrial Wildlife, under Potential Mitigation and Monitoring Measures, mitigation measures are only identified for mule deer. Impacts to several species are discussed in the Consequences section including antelope, sage grouse, chukar and many nongame birds and mammals. What mitigation measures will be implemented for these species of wildlife impacted by the proposed action?

Response J

Food sources and nutrients needed to support biological activity in the pit lake would be low. In addition, the pit lake surface would be several hundred feet below the pit rim, and would be surrounded by private land inaccessible to the public.

Response K

We concur that variable topsoil redistribution depths should be included as a component of revegetation test plots, particularly in regard to evaluating response of shrub species (see Mitigation Plan, pages 60-61).

Response L

Results of revegetation test plots may show that common, non-native species would outperform native species. If native species are unsuccessful, the option would be available to modify the seed mixes to include common, non-native species in keeping with the post-mining land use (see Mitigation Plan, pages 60-64).

Response M

At least four years of no grazing following seeding would be provided for vegetation establishment (see Mitigation Plan, page 65).

Response N

More solution ponds are proposed; therefore, there would be more opportunity for increased wildlife mortality. Protective measures required by the Industrial Artificial Pond Permits (through NDEP) would be complied with and would reduce or eliminate wildlife mortality at all ponds.

Response O

Newmont's Mitigation Plan provides for habitat restoration and protection which would benefit all species within the South Operations Area Project.

In the same section, the text indicates that monitoring programs would be expanded to determine mortalities of wildlife, especially birds and bats. It goes on to state that all facilities would be searched once a week. This may not be adequate to meet the requirements of the Industrial Artificial Pond Permit issued by our agency. Any mortalities of migratory birds, game animals or birds or threatened and endangered animals must be reported within 24 hours. This requires that the ponds be inspected daily to ensure that this reporting occurs.

P In the same section, under Irreversible and Irretrievable Commitment of Resources the text states that no wildlife resources will be irreversibly or irretrievably lost if the project is reclaimed to pre-mining condition. This will only be true if the reclamation effort is specifically directed towards this goal. This would include identifying specific seed mixes using as many native species as possible, salvaging adequate topsoil to allow for vegetative growth and proper engineering design of the post mine land configurations.

Q Under Residual Adverse Effects the text indicates that the proposed project areas that are revegetated following the disturbances will be less diverse, contain more introduced species and will have 26% more open ground. The text goes on to say the area may not support the same numbers and diversity of wildlife that existed prior to the mining disturbance. We would suggest that a greater emphasis be placed on developing the site to be as similar to what presently exists. This would provide the best benefit to wildlife following the mining activity. Additional mitigation measures could be considered to offset the reduction in numbers and diversity. One alternative that we support that would reduce the overall percentage of open space following the end of mining is the partial backfill of the Mac pit sidewalls to allow them to be revegetated. This would provide additional acres of habitat for wildlife.

An additional mitigation opportunity for fisheries may exist. An additional warmwater fisheries could be developed in the Humboldt River during the dewatering period from 1993 to 2001. Funding for the fish stocking efforts could be made part of the overall mitigation package.

R In the Section on Cumulative Effects, under the Wildlife Habitat Rehabilitation, there is a typographical error. The third sentence says that Wildlife has converted thousands of acres of rangeland. We believe the sentence should say wildfire.

S In Cumulative Effects, under Terrestrial Wildlife, the text indicates that the Area 6 mule deer herd is stable. The Area 6 deer population has experienced a long term decline over the last

Response P

Postmining topography, soil salvage and redistribution, revegetative mixtures and other mitigation measures are designed to minimize loss of wildlife resources. Although reclamation cannot "restore" pre-mining conditions, topographic and vegetative diversity would provide a diversity of wildlife habitat (see Mitigation Plan, pages 59-66).

Response Q

Backfilling the MAC pit is not a cost-effective means of mitigating the small acreage that would be lost to wildlife habitat. BLM considers measures identified in Newmont's Mitigation Plan a more effective means of enhancing wildlife (including fisheries) habitat. Also see Response P above.

Response R

Thank you for your comment. The statement should read "...wildfire has converted thousands of acres of rangeland..." (see Errata, Chapter 3 of this FEIS).

Response S

Population stability is a function of the period of time under consideration. For example, more recent data suggest that mule deer populations were stable through the 1980s but at levels substantially lower than previous decades.

Russell Dailey
July 12, 1993
Page 6

S 20 years. Based on harvest data, computer modeling, historical records and observations, the area supports about one half of the deer that it supported during the 1950's, 60's and early 70's. AS previously mentioned, the winter of 1992-93 saw serious winterkill on the Area 6 winter ranges. Critical deer habitat in Area 6 continues to be impacted from several sources including fire, land management practices and mining activity.

We appreciate the opportunity to cooperate with your agency and Newmont in developing this expansion plan so that it will provide the least impact to, and best benefit for wildlife. If you have any questions or comments concerning this input, please contact me.

Sincerely,

Rory E. Lamp
Biologist
1375 Mountain City Highway
Elko, NV 89801
(702) 738-5332

RL
cc: Habitat Division
Thomas J. Fronapfel, Chief, Bureau of Mining Regulation and Reclamation, NDEP
Tom Conway, Manager, Environmental Affairs, Newmont
Region II
File

Letter #11

SIERRA CLUB
Tolyabe Chapter — Nevada and Eastern California
P.O. Box 8096, Reno, Nevada 89507

July 16, 1993

David Vandenberg
Elko District Office
Bureau of Land Management
P.O. Box 831
Elko, NV 89803

RE: NEWMONT SOUTH OPERATIONS EIS

Dear David:

I have reviewed the EIS for Newmont's expansion in the South Operations area and found it to be a generally excellent analysis of the impacts of this expansion. This mine will indeed have very substantial impacts on the people and ecosystem of Northern Nevada and the Humbolt River system. With the exception noted below, I feel that these impacts have been analyzed in a manner that sets a new standard for the BLM in Nevada and your office deserves to be commended for this fine effort.

I do feel, however, that one area which deserves additional analysis is the effect of dewatering on agriculture in the Lovelock area. They are the last economic user of the water **A** before it enters the Humbolt sink and are going to be impacted significantly when pumping is discontinued, by this mine alone. But when combined with all of the other pumping in the Humbolt drainage system, the Lovelock area will likely be substantially affected when the cumulative effect of discontinuing pumping occurs 20-40 years from now. Estimates on how much less water they will receive and how that will effect agriculture in the area should be developed.

The PTI study on Chemogenesis of the Gold Quarry Pit Lake deserves special mention. I want to commend the BLM, Newmont and Andy Davis for this excellent study. It is, quite simply, the best that has been developed anywhere in the world. This study is thorough, very readable and breaks new ground in research on this very important problem. But it is also an area in which the unknowns are still large. The entire water quality prediction is based on a large number of factors, as everyone will agree. If some of thoe assumptions are incorrect, the water quality may change dramatically. For example, if the lake does not turn over, the oxygen status in the lake will be lower and arsenic and iron chemistry will be dramatically affected. The BLM in Nevada should continue to encourage additional research in this area. The PTI study is an excellent model to build on and I believe that it will be widely read and used in the future.

The other issue which needs additional focus is on mitigation. Under NEPA, the agency is required to institute mitigations for the project impacts. In the final EIS, those mitigations need to be developed more completely and quantitatively. To the extent possible, impact thresholds should be established which can be quantified. When those thresholds are exceeded, mitigations should be instituted. The following areas need to be improved.

LAS VEGAS GROUP
P.O. Box 19777
Las Vegas, Nevada 89119

To explore, enjoy, and protect the wild places of the earth . . .

GREAT BASIN GROUP
P.O. Box 8096
Reno, Nevada 89507

LETTER NO. 11 **Glenn C. Miller** **7-16-93**

Response A

Cumulative analysis of dewatering impacts in the Humboldt River Basin is currently being conducted by the United States Geological Survey. With regard to the South Operations Area Project, however, potential impacts to water rights holders after cessation of pumping would be fully mitigated by the requirement that Newmont subordinate an appropriate amount of its senior water rights so that other water rights holders, including those in the Lovelock area, would be protected.

South Operations EIS
page 2

B 1. Grazing: If 8092 AUM's are lost, 8092 cows should be removed from public and private lands until land is restored to previous productivity, and permanently retired if the vegetation for the AUM's is permanently lost.

C 2. Water rights: If Lovelock agriculture is losing water, that water should be purchased from other water rights holders until the system recovers after more than 20 years of aquifer restoration. This should be required of all of the mines in the Humbolt basin.

D 3. Wildlife: Because of the extensive loss of springs, seeps and riparian systems, those impacts should be mitigated in other areas. While it is probably not possible to completely mitigate those impacts, the USFWS and Nevada Division of Wildlife both can provide many helpful suggestions. Terrestrial wildlife may need to have water sources provided to them when springs and seeps dry up.

4. Water quantity: The BLM should reread the EIS and note the assumptions that are made on water quantities associated with dewatering, and the associated impacts. With the experience of the error in the estimate of the dewatering rate of the Betze pit, the BLM should establish general procedures and quantitative stipulations which will become enforceable if those

E estimates are sufficiently inaccurate that the impact analysis and mitigations are affected. Basically, the BLM should be able to change what they require for mitigations if the estimates in the EIS are wrong.

As indicated previously, this EIS and supporting documents are the best I have seen in Nevada, and with the comments above in mind, we appreciate your leadership in regulating mining on BLM-managed public lands in Nevada.

Sincerely,

Glenn Miller

Glenn C. Miller, Chair
Toiyabe Chapter Committee on Mining

Response B

With the exception of the loss of 222 AUMs associated with physical land disturbance (all on TS Ranch lands), Newmont's Mitigation Plan provides for maintenance and/or augmentation of existing livestock water sources. As a result, no reduction in AUMs is anticipated on adjacent grazing allotments or ranches other than the TS Ranch (see Mitigation Plan, page 37).

Response C

Newmont's Mitigation Plan provides for subordination of its water rights so that other water rights would be protected (see Mitigation Plan, pages 35-37).

Response D

The Water Resources and Wildlife sections in the Mitigation Plan (pages 24-29 and pages 48-58) describe mitigation measures with respect to springs, seeps, and wildlife.

Response E

Quarterly monitoring reports and annual recalibrated model updates would be submitted to the BLM. Modifications to the monitoring program, mitigation measures, and mitigation schedule would be reviewed periodically.

Letter #12

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION IX
75 Hawthorne Street
San Francisco, CA 94105-3901

David Vandenberg
Elko District Office
Bureau of Land Management
P.O. Box 831
Elko, NV 89803

Dear Mr. Vandenberg:

The U.S. Environmental Protection Agency (EPA) has reviewed the Draft Environmental Impact Statement (DEIS) for **Newmont Gold Company's South Operations Area Project, Elko and Eureka Counties, Nevada.** Our comments are provided pursuant to the National Environmental Policy Act (NEPA), the Council on Environmental Quality's NEPA Implementation Regulations, and our authorities under §309 of the Clean Air Act.

The DEIS evaluates alternatives for expanding mining operations at the Newmont South Operations Area. Alternatives include Newmont's proposed action as well as BLM's preferred alternative, three other alternatives, and No Action. The proposed action would include expansion of an existing quarry, development of two new quarries, expansion and development of new waste rock piles and refractory ore stockpiles, expansion of the tailings storage facility, development of four new leach pads, haul roads, water treatment facility and other ancillary facilities. The proposed project would result in additional disturbance of 1,573 acres, greater than half of which are public lands. The project involves the withdrawal of approximately 500,000 acre-feet of groundwater, which would result in significant loss of wetlands and riparian habitat, significant modification of stream flows, and degradation of surface water quality. Pumped groundwater would be diverted to Maggie Creek, greatly increasing surface flows and resulting in significant modification of channel morphology.

The BLM-preferred alternative is implementation of the proposed action with modified disposition of pumped groundwater. Under the BLM-preferred alternative, pumped groundwater would be diverted to a cooling system and then transported via pipeline to the Humboldt River for discharge.

We have rated both the proposed action and the BLM-preferred alternative as EO-2 -- Environmental Objections-Insufficient

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Information (see enclosed "Summary of Rating Definitions and Follow-Up Action"). Our EO ratings reflect EPA's objections to the proposed/preferred project's potential impacts to wetlands and riparian areas, surface water flows and aquatic habitat, and water quality. Our numeric (2) ratings reflect the need for additional information in the final environmental impact statement (FEIS) regarding water quality and quantity mitigation measures, groundwater modeling, acid drainage prevention/control measures, and monitoring.

We believe that implementation of the proposed or preferred alternatives would be inconsistent with Executive Order 11990, which requires federal agencies to take actions to minimize the destruction, loss or degradation of wetlands, and enhance the natural and beneficial values of wetlands. We urge BLM to make a firm commitment in the FEIS and Record of Decision to comply with Executive Order 11990. We recommend that BLM require the project proponent to implement aggressive measures to mitigate for the projected degradation and/or loss of wetlands and other waters of the U.S. in the project vicinity.

We appreciate the opportunity to review this DEIS. Please send two copies of the FEIS to this office when it is officially filed with our Washington, D.C., office. If you have any questions, please call me at (415) 744-1584 or Jeanne Dunn Geselbracht of my staff at (415) 744-1576.

Sincerely,

FOR JW

Jacqueline Wyland, Chief
Office of Federal Activities

Enclosures

001569/93-210

cc: David Harlow, U.S. Fish and Wildlife Service-Reno
Dick Reavis, Nevada Division of Environmental Protection
Tom Fronapfel, NDEP, Mining Regs. and Reclamation
Jim Cooper, Nevada Division of Environmental Protection

Waters of the U.S.

Dewatering of Waters of the U.S.

The proposed project could result in impacts to 1,342 acres of riparian habitat, 857 of which are jurisdictional waters of the U.S., including wetlands. An additional ten acres of seeps and springs at 25 different sites could also be affected by the proposed project, and perhaps more by the preferred alternative. A total of 2,700 acres of wetlands and riparian areas cumulatively could be affected by groundwater pumping at the Newmont South Operations site and the nearby Barrick Goldstrike Betze Pit. Historic wetlands of Nevada have already been reduced by some 85 percent. The cumulative impacts of this project to wetlands and other waters of the U.S. are significant, and we believe BLM should take agressive measures to minimize the impacts to these valuable and sensitive areas. Pursuant to Executive Order 11990, BLM must "take action to **minimize** the destruction, loss or degradation of wetlands, and to **preserve and enhance** the natural and beneficial values of wetlands in carrying out the agency's responsibilities...." (emphasis added).

A According to the DEIS, wetlands and riparian areas would be irretrievably lost at spring sites or stream reaches where mitigative development of adequate water sources is not feasible (p. 4-78). It appears that many of the potential mitigation measures in the DEIS are either infeasible, too general, or would cause other harmful effects to resources. For example, drilling a well into an underlying aquifer to pump groundwater into springs and seeps could cause drawdown of other springs and seeps. Truck hauling or piping water to springs and seeps from another water source may not be feasible or desireable in many isolated locations.

B In order to offset wetland losses and stream flow reductions as well as reduce impacts to the receiving stream (e.g., Humboldt River or Maggie Creek), we recommend that a combination of several potential mitigation measures identified in the DEIS be explored and very specific commitments to mitigation be made in the FEIS. Mitigation might include reducing effluent discharge to Maggie Creek or Humboldt River by diverting some effluent to irrigation, groundwater recharge, or other depleted streams. In addition, in order to offset wetland losses, we believe the mitigation measures should include dedication of active water rights currently being used for other purposes. The FEIS should also describe any proposed channel modifications as well as any activities necessary to reclaim areas to their original topography.

LETTER NO. 12 **Jacqueline Wyland** **7-16-93**

Response A

Newmont's Mitigation Plan provides for maintenance and augmentation of water flow, as needed, in streams, springs, and seeps potentially impacted by the South Operations Area Project. Augmentation measures have been identified for each potentially impacted seep and spring. The concerns raised in your comment were considered in formulating this augmentation plan (see Mitigation Plan, pages 24-29).

Response B

Specific mitigation measures are outlined in Newmont's Mitigation Plan. These mitigations include methods to augment surface water flows, as necessary, enhance and protect riparian and wetland habitat, protect existing water rights, modify the Maggie Creek channel, and reclaim disturbed areas (see Summary of Maggie Creek Channel Modifications, Appendix B and Mitigation Plan).

Furthermore, mitigation measures are only addressed in the DEIS **C** as potential measures. We urge BLM to include in the FEIS a detailed mitigation plan which would fully replace wetlands acreages, functions and values, and commit to that plan in the Record of Decision. The mitigation plan should specify: a) the location and size of mitigation area(s); b) water sources, needed quantities, and distribution methods; c) revegetation plans; d) maintenance and monitoring for mitigation areas; and e) contingency plans should the mitigation efforts fail.

Table 4-1 (DEIS, p. 4-71) indicates the number of acres of riparian wetland and other waters of the U.S. on tributaries of the Humboldt River that could potentially be affected by the **D** proposed project. The FEIS should indicate the acreages potentially affected by the project on the Humboldt River itself and the associated resource impacts for both the period during active dewatering as well as the following decades during which groundwater recharge would occur.

E Wetland losses would be irreversible if the hydrologic conditions do not return to pre-mining conditions (DEIS, page 4-78). The FEIS should indicate the likelihood of irreversible losses and long-term or "permanent" groundwater drawdown as a result of continued dewatering in the project vicinity in the future as new ore bodies are discovered and developed.

Clean Water Act §404

EPA has reviewed the proposed activities for compliance with the Federal Guidelines (Guidelines) promulgated pursuant to Section 404(b)(1) of the Clean Water Act. We assume that under the Agency preferred alternative, a Section 404 permit would be **F** required for at least the following activities: 1) expansion of the Maggie Creek Ranch Reservoir, 2) modification of the Maggie Creek channel to minimize erosion/sedimentation impacts, 3) construction of the North Area Haul Road over Soap Creek (this road may also impact Simon Creek), and 4) construction of the discharge point outlet structure in a side channel of Maggie Creek. The Sacramento District of the U.S. Army Corps of Engineers has informed EPA that they will require an individual Section 404 permit for the direct impacts of the proposed fill in U.S. waters, and all indirect impacts from the fill due to flooding, excavation, or drainage.

G The DEIS does not describe the acreage or quality of waters of the U.S. (including wetlands) that would be filled for any of the project elements mentioned above. It also does not specify the type or amount of waters that would be flooded, excavated or

Response C

The detailed Mitigation Plan would mitigate potential impacts to wetland acreages, functions, and values (see Mitigation Plan, pages 6-14).

Response D

Riparian areas and wetlands that could be adversely affected total 1,419.2 acres which includes Humboldt River acreages (see page 5 of the Mitigation Plan). Newmont's Mitigation Plan provides for enhancement of 1,982.8 acres of riparian vegetation and 82 miles of stream channel (see pages 6-14, Mitigation Plan).

Response E

Hydrogeologic modeling predicts recovery of existing hydrologic conditions. There are no other current or contemplated projects in the area of impact that would affect groundwater resources. Nevertheless, the Mitigation Plan (pages 19-34) provides for continuation of mitigation measures until recovery occurs at all impacted streams, seeps and springs, and associated wetlands.

Response F

Expansion of the Maggie Creek Ranch Reservoir would not result in impact to waters of the U.S.; modification to Maggie Creek channel is described in Appendix B - Summary of Maggie Creek Stabilization Plan; construction of the North Area Haul Road is addressed under an individual Section 404 permit; and details of the discharge outlet structure will be included in the Section 404 permit application.

Response G

The Agency Preferred Alternative included in this FEIS (Chapter 2) acknowledges the need for a Section 404 permit for stabilization of the Maggie Creek channel and construction of a discharge point outlet structure. Based on preliminary information, less than 3 acres of non-woody vegetation would be affected by the proposed activities in Maggie Creek. These matters will be described in greater detail in Newmont's permit application. See also Response F above.

drained because of the fill. No permit can be issued until this information is provided [40 CFR 230.12(a)(3)(iv)].

H The FEIS should: a) include a clear map of the jurisdictional waters of the U.S. (including wetlands) that would be filled, or flooded, drained, or excavated by the project as a result of the fill, b) specify the acreage, habitat type and quality of these areas.

Based on the information provided in the DEIS, our specific concerns relative to Clean Water Act §404 are as follow.

I. Alternatives [40 CFR 230.10(a)]

The Guidelines require that the proposed project consist of the least-environmentally-damaging practicable alternative. The DEIS makes no attempt to demonstrate that the project elements that would require fill have been designed to first avoid, and second, minimize impacts to waters of the U.S. For example, to minimize fill in Soap Creek, the haul road could be designed to bridge the creek rather than fill it. The need for modifying the Maggie Creek channel should also be clearly demonstrated, and other less-damaging alternatives explored. I

The FEIS should: include an alternatives analysis that describes how fill of U.S. waters would be avoided or minimized for each pertinent activity under the preferred alternative.

III. Endangered Species [40 CFR 230.10(b)]

The Guidelines require that the project not jeopardize the existence of any federally-listed threatened or endangered species or violate water quality standards. The threatened Lahontan cutthroat trout may be adversely affected by the proposed actions.

J The FEIS should: discuss how this issue has been resolved to the satisfaction of the U.S. Fish and Wildlife Service.

IV. Significant Degradation [40 CFR 230.10(c)]

The Guidelines prohibit any project that would cause or contribute to significant degradation of aquatic habitat. We believe that the project could result in significant degradation depending on the extent of impact from fill, or its related activities, and the proposed mitigation measures.

Response H

See Response G above.

Response I

The haul road would be constructed to take maximum advantage of topography to reduce fill across drainages. Specific information relating to selection of the least environmentally damaging practicable alternative would be developed in Newmont's Section 404 permit application. Reduction in sediment loads resulting from channel modifications is described in Appendix B - Summary of Maggie Creek Stabilization Plan and in Newmont's Mitigation Plan.

Response J

A Biological Assessment of the proposed South Operations Area Project has been submitted to the U.S. Fish and Wildlife Service. BLM has determined that the South Operations Area Project would not adversely affect the threatened Lahontan cutthroat trout or any other listed species. Discussions with U.S. Fish and Wildlife Service have been ongoing throughout preparation of the DEIS and FEIS.

__The FEIS should__: provide the information requested under I. above and V. below to demonstrate that aquatic habitat would not be significantly degraded.

V. Mitigation [40 CFR 230.10(d)]

The Guidelines prohibit fill of wetlands unless appropriate and practicable steps have been taken to minimize unavoidable adverse impacts on the aquatic ecosystem. The DEIS provides no specifics on how the adverse effects of the project (including the direct and indirect fill impacts and dewatering impacts) would be mitigated. Mitigation should be implemented in advance of the impacts, to avoid habitat losses due to the "down time" experienced until an area successfully revegetates and is populated by aquatic life. For riparian areas in particular, establishment can take many years. We also believe that instead of developing the full 1,650 acres for irrigation in the Maggie Creek basin (p. 4-50), large acreages of wetlands should be created. **K**

__The Final EIS should include the "comprehensive mitigation plan" which should describe__: a) the acreage and habitat type of wetlands that would be created or restored, b) water sources to maintain the mitigation area (the reliability of any water source must be well-documented because the cone of depression created by the pumping may make it difficult to retain water on these areas, depending on the local soil conditions, etc.; also, water sources such as aquifers should not be used for mitigation if this would result in the loss of some other wetland or riparian area), c) how springs and seeps would be successfully created, d) the revegetation plans including the numbers and age of each species to be planted, e) maintenance and monitoring plans, including performance standards to determine mitigation success, f) the size and location of mitigation area buffer zones, g) the parties that would be ultimately responsible for the plan's success, and h) contingency plans that would be enacted if the original plan fails. **L**

According to the DEIS (p. 4-73), current land use practices along the Humboldt River, including grazing and willow control, would retard development of bank-stabilizing riparian vegetation. We urge BLM to seriously consider modifying grazing and willow management on public lands to include measures that would improve stabilization of banks that are affected by high discharges from Newmont operations, and enhance riparian and aquatic habitat. Such measures could include fencing and/or reduced grazing in riparian areas as well as bank-stabilizing vegetation. **M**

Response K

Comment noted. Mitigation measures for riparian and wetland habitat are contained in Newmont's Mitigation Plan (pages 6-14), and would be implemented prior to any impacts associated with fill of wetlands.

Response L

The Mitigation Plan submitted by Newmont subsequent to release of the DEIS fully responds to the issues raised in this comment.

Response M

The only location requiring stabilization is Maggie Creek. The Mitigation Plan specifies measures to enhance riparian vegetation on Maggie Creek from the discharge point to the confluence of the Humboldt River by planting of woody riparian species in selected, critical areas. Livestock would be excluded from select areas that are critical to stream bank stability and managed in consultation with the BLM (see Mitigation Plan, pages 7, 9, and 38-39).

Water Quality and Quantity

Acid Mine Drainage

The DEIS indicates that approximately 15 gallons per minute would seep from the tailings facility indefinitely as a result of infiltrating precipitation. It is estimated that the concentrations of cyanide in seepage would be neutralized to meet the State of Nevada standard within approximately seven years.

N The FEIS should discuss the long-term (post-mining) operation of a seepage collection and treatment system necessary to prevent releases of other toxic substances, such as metals in acid drainage, to groundwater. The discussion should also include contingency measures should acid drainage accidentally be released to either groundwater or surface water and releases need be controlled.

A portion of the acid generating waste rock would be "encapsulated" in the Mill 2/5 tailing dam. It is unclear that this material would in fact be sufficiently encapsulated or

O isolated. The FEIS should describe how the material would be encapsulated. We recommend the addition of adequate limestone or neutralizing rock **admixed with**, rather than surrounding, the mill feed as a buffer to minimize pyrite oxidation of tailings and waste rock.

P Failing adequate buffering of tailings and waste rock to completely prevent acid generation, we recommend that BLM consider placement of an impermeable cap over the tailings in order to preclude meteoric water from infiltrating tailings and prevent acid drainage. We recommend that soil over an impermeable cap be of an appropriate thickness to support vegetation and that species for revegetation be carefully selected to prevent cracking from roots. A long-term maintenance plan should be prepared and include measures to exclude burrowing animals.

Q Although much of the refractory ore could be acid generating, it does not appear from the discussion on page 2-9 of the DEIS that the refractory ore stockpiles would be managed to prevent acid drainage. We recommend that measures be taken to prevent acid drainage from these piles.

R The FEIS should include a plan for monitoring groundwater downgradient of site facilities during mining and after closure. The FEIS should discuss the possible necessity for long-term post-closure monitoring, especially for acid mine drainage.

Response N

The tailings are either naturally or artificially oxidized; therefore, they are unable to generate acid rock drainage. NDEP has received and approved a plan for monitoring the acid generating potential of mine materials. Due to this geochemistry, it is inappropriate to discuss further contingencies for acid rock drainage generation (see Mitigation Plan, pages 41-42).

Response O

The specifics of encapsulation of potentially acid-producing waste rock in the Mill 2/5 tailing dam are included in the report referenced in the DEIS (Knight Piesold and Co. 1992). Tailings would be completely oxidized by the roaster before being deposited in the impoundment. The technique of encapsulation as presented for the Mill 2/5 dam is considered adequate to reduce the risk of any impacts from acid rock drainage in an arid climate (see Mitigation Plan, pages 41-42) (See also Letter 28, Response E).

Response P

See Responses N and O above.

Response Q

See page 2-17 of the DEIS for a discussion of the management of refractory ore stockpiles. The monitoring plan - "Refractory Stockpile and Waste Rock Dump Monitoring Plan" (DEIS, page 2-17) has been submitted to NDEP and procedures outlined in that report will be implemented.

Response R

NDEP has received and approved a plan for monitoring groundwater downgradient of site facilities during mining and after closure.

Surface Water Discharges

The objective of the Clean Water Act, as stated in §101(a), is to restore and maintain the chemical, physical, and biological integrity of the Nation's waters. Unless the proposed action is substantially modified, it appears that excess mine water discharge would adversely affect water quality and result in violations of standards, such as those for temperature and turbidity. The BLM-preferred alternative of discharging water directly to the Humboldt River would prevent flooding, erosion, and sedimentation of Maggie Creek and protect water quality standards and beneficial uses. However, the BLM-preferred alternative would result in an expansion of the cone of depression, thereby affecting additional acreages of wetlands and riparian areas and further reducing instream flows in Maggie and Susie creeks. We urge BLM to seek effective means to substantially reduce impacts to both water quantity and quality in the project vicinity. **S**

According to the DEIS, excess mine water would be treated to meet all State of Nevada standards. In addition to water quality-based permit requirements, the discharge must meet appropriate effluent guidelines.

The DEIS indicates that discharges to either Maggie Creek or the Humboldt River would be sufficiently cooled to meet the temperature standard by the time it reaches the Palisade gage. However, the standard must be met upstream from Palisade at the point of discharge. In fact, if water is discharged to Maggie Creek, it must meet standards for Class B waters: i.e., must not exceed 20°C for trout streams or 24°C for non-trout streams; and the allowable temperature increase above natural receiving water temperature = none. The FEIS should discuss how discharges would meet the water temperature standard for either Maggie Creek or the Humboldt River. **T**

Groundwater Modeling

EPA questions the accuracy of the DEIS's predictions regarding impacts to groundwater from the proposed project. It is unclear whether the model was appropriately applied in light of the area's complex hydrogeology. Poor conceptualization and/or representation of the system would yield inaccurate results the following reasons:

♦ The model (MINEDW) was developed to predict groundwater flow in an unconfined aquifer (DEIS, p. 4-13). However, the aquifer systems underlying the proposed mine are a complex of perched, unconfined, and semi-confined and confined aquifers. The

Response S

The Agency Preferred Alternative as described in this FEIS no longer would result in expansion of the cone of depression. Newmont's Mitigation Plan includes measures to reduce impacts to water quantity and quality in the project area.

Response T

The point of water temperature compliance would be established in the NPDES permit for Maggie Creek and/or the Humboldt River. Maggie Creek from the Jack Creek confluence to the Humboldt River is rated Class C water (NAC 445.124) as stated on page 3-28 of the DEIS; as such, the allowable temperature increase in Maggie Creek above natural receiving water temperature is 3°C. Additional analysis is provided in Appendix C concerning compliance with water temperature standards.

carbonate aquifer to be dewatered for the proposed operation is semi-confined to confined.

- Groundwater flow beneath the area is, at least in part, through a system of conduits and along fault barriers (DEIS, p. 3-39). Obtaining accurate results using the finite difference modeling technique as used in this report would require that the location of these discontinuities be well understood and spatially represented in the model in three dimensions to depths of up to 3,000 feet.

- The DEIS states that the model has not been verified for mine application (p. 4-13) and that "[p]redictions of groundwater drawdown and streamflow impacts must be considered with the understanding that actual conditions may deviate from the predictions" (p. 4-13).

- Other assumptions required by the model are not identified.

U Given the uncertainties regarding both the validity of the MINEDW model and its application to semi-confined to confined conditions, we believe that the groundwater and surface water impacts predicted in the DEIS may be understated. Impacts to springs, seeps, riparian wetlands, and other waters of the U.S. could be more severe for both the duration of the dewatering period as well as the recharge period (e.g., recharge could occur **V** more slowly than predicted). The FEIS should discuss the appropriateness of applying MINEDW to these hydrogeologic conditions. We suggest that BLM consider re-running this model or another finite difference model using more conservative parameters and discuss the results in the FEIS.

Biological Resources

W We recommend that revegetation be accomplished with native species as much as possible.

Response U

The MINEDW groundwater flow model utilized for the South Operations Area Project is a predictive tool that is a reasonable basis to evaluate potential impacts resulting from mine dewatering. There may be some variation from the predicted cone of depression during the dewatering period. As stated in the DEIS (page 4-13), model recalibration is an ongoing activity and annual updates of the model would be submitted to BLM (see Mitigation Plan, pages 20-23).

Response V

Because model recalibration would continue annually during dewatering activities, there is no significant advantage to performing additional model runs or using a different model at this time. A sensitivity analysis was conducted for MINEDW to evaluate the effect of varying input parameters. Results of model calibration and sensitivity analysis are contained in Appendix D of the DEIS and the HCI 1992 report: Hydrogeologic Framework and Numerical Ground-Water Flow Modeling of Newmont Gold Company's Gold Quarry Mine, Eureka County, Nevada.

Response W

Comment noted. The Mitigation Plan (pages 59-66) includes information on vegetation mitigation measures and seed mixtures.

Letter #13

United States Department of the Interior
BUREAU OF RECLAMATION

LAHONTAN BASIN PROJECTS OFFICE
P O BOX 640
CARSON CITY, NEVADA 89702

IN REPLY
REFER TO

LO-450
ENV-6.00

Memorandum

To: Bureau of Land Management, Elko District Office
Attn. David Vandenberg, EIS Coordinator

From: Project Manager, Carson City

Subject: Bureau of Reclamation's comments on the Newmont Gold Company's South Operations Area Project Draft Environmental Impact Statement

Bureau of Reclamation (Reclamation) personnel have reviewed the subject Environmental Impact Statement (EIS). Reclamation is unable to assess the full impacts of the proposed actions on the Reclamation Humboldt Project without the additional information and long-term mitigation plans discussed in the following comments and questions:

1. The preferred alternative is stated as resulting in increased stream flows (up to 104 cubic feet per second (cfs)). The increased flows may provide a short-term benefit to the Humboldt Project and Humboldt Sink wetlands downstream during the dewatering phase of the proposed project.

The Humboldt Project and Humboldt Sink wetlands will be adversely impacted by the reduced stream flows in the Humboldt River at the time of cessation of dewatering. It is unclear in the Stream and River Flows mitigation (pg 4-48) if water "could" or "would" be supplemented to the Humboldt River if the river fell below adequate natural base flow conditions. The mitigation does not include a discussion on how long the impact period is that the water supplementing would occur. It also does not discuss that supplementing the Humboldt River and other streams would increase the time required for complete flow recovery of the system.

A

The mitigation states that a minimum of 10 cfs will be maintained in the Humboldt River at Palisade. Will this minimum be maintained despite the fact that the river is often lower than 10 cfs naturally during certain conditions?

B

2. Will Maggie Creek Reservoir remain at the new larger storage capacity size (6,000 acre feet) after cessation of dewatering? If it does remain at the larger size, this will result in less water in the Humboldt River which would adversely affect the Humboldt Project and the Humboldt Sink wetlands.

LETTER NO. 13 Bureau of Reclamation 7-14-93

Response A

Augmentation of flow in Maggie Creek and Susie Creek is described in the Mitigation Plan (pages 32-34). Subordination of Newmont's water rights would ensure that water rights are protected.

Response B

Any change to the existing dam's capacity would not result in less water reaching the Humboldt River, due to the limited size of the watershed above the facility.

C

3. It is stated on page 4-28 that Humboldt River flows at the Palisade gage after cessation of dewatering would be reduced by a maximum of 19 cfs. What is the estimated cumulative impact on Humboldt River flows at the Palisade gage from the year 2001 when dewatering would cease to the years 2020, 2040, and 2100? Why is the impact of the project on Humbolt River flows at the Dunphy gage about half of the impact at the Palisade gage (9 cfs versus 19 cfs)? What assumptions were made concerning diversions and stream losses in this reach with and without the project?

D

4. What is the definition of "excess water" as used on page 2-63 in the discussion of opportunities. It appears that a large portion of the dewatering would in effect be derived from the future water supply of existing uses of the Humboldt River including the future water supply of all downstream water right holders.

E

5. What hydrologic period was used to calibrate the numerical ground water flow model?

Thank you for the opportunity to review and comment on this proposed project. Responses should be written to the letterhead address, attention Caryn Huntt.

Response C

No cumulative impacts are anticipated in the Humboldt River at Palisade because no other activities that could impact groundwater/surface water flows occur upstream from that station. Predicted impacts from the South Operations Area Project at the Dunphy gage are less than at the Palisade gage because as the distance increases downstream from the mine area, natural groundwater/surface water interactions tend to "absorb" or adjust to the changes in the river's flow regime. Gaging stations on the Humboldt River and its tributaries supply the basic data needed for modeled changes in baseflow conditions.

The U.S. Geological Survey is presently conducting studies on conditions in the Humboldt River basin. Information gained from those studies may modify the flow values recorded in the past. It is expected that the U.S. Geological Survey will complete its reports in 1994 (see also Letter 11, Response A).

Response D

Excess water refers to groundwater that is removed with the mine dewatering system and is in excess of Newmont's water requirements for the mine operations.

Response E

The hydrogeologic numeric groundwater flow model (MINEDW) was subject to both steady-state and transient calibrations. Steady-state calibrations were performed using the groundwater table mapped by Newmont in 1991. Water levels measured in a number of wells in the study area were used as specific calibration points, as were baseflows of Susie Creek, Maggie Creek, Marys Creek, and the Humboldt River. Baseflows were determined from the available period of flow records. Results from several constant discharge aquifer tests conducted in the mine area were used for transient calibrations. See Summary of Numerical Groundwater Flow Model in Appendix D of the DEIS or the report by Hydrological Consultants, Inc. (HCI 1992a).

Letter #14

NEWMONT GOLD COMPANY
ONE NORWEST CENTER
1700 LINCOLN STREET
DENVER, COLORADO 80203
(303) 863 7414

July 19, 1993

Mr. David Vandenberg
EIS Coordinator
Bureau of Land Management
Elko District Office
P.O. Box 831
Elko, Nevada 89803

Re: Comments on DEIS for South Operations Area Project

Dear Mr. Vandenberg:

Newmont Gold Company ("Newmont") submits the following comments on the Draft Environmental Impact Statement ("DEIS") for Newmont's South Operations Area Project, issued by the Bureau of Land Management ("BLM") in May 1993.

BLM prepared the DEIS in connection with Newmont's proposed amendment to its Plan of Operations for the South Operations Area ("POO Amendment"). Pursuant to 43 C.F.R. § 3809, the POO Amendment was submitted to BLM for review and approval of those operations involving the use of federal public domain lands.

In general, Newmont believes the DEIS contains a rigorous and comprehensive description of the potential impacts associated with the POO Amendment and the full range of potential mitigation measures that might be implemented to address those impacts. BLM is to be complimented for the quality and thoroughness of the document. With respect to mitigation measures, Newmont recognizes that BLM was required to include within the DEIS a discussion of all reasonable mitigation measures, even if those measures will not be required in the Record of Decision ("ROD").

However, there are certain instances, described later in these comments, where the DEIS's discussion requires further clarification.

I. THE CONSTRUCTION OF A DIRECT DISCHARGE PIPELINE TO THE HUMBOLDT RIVER IS UNNECESSARY.

The Agency Preferred Alternative described in the DEIS would involve the construction of a pipeline to the Humboldt River "to handle dewatering flows greater than Maggie Creek's bankfull capacity of approximately 80 cfs during the last several years" of

Mr. David Vandenberg
July 19, 1993
Page 2

dewatering. DEIS at Page 2-59. The agency's preference for this alternative appears to be based upon the conclusion that discharges to Maggie Creek greater than 80 cfs would potentially cause excessive and unmanageable erosion in the creek. See DEIS at Page 4-37.

The "bankfull discharge" or "bankfull width" of a stream is a statistical value reflecting, approximately, the amount of flow necessary to cover the bed of a stream from bank to bank. It does not represent the capacity of the stream channel to carry water. For example, during the spring runoff period of 1993, flows in Maggie Creek reached approximately 650 cfs without flooding--far in excess of the "bankfull discharge" for the creek.

A

Newmont requests that BLM consider that successful mitigation in the Maggie Creek channel would circumvent the need for a pipeline to carry water to the Humboldt River in excess of 80 cfs. Appropriate mitigation measures can allow discharge of dewatering flows in excess of 80 cfs to Maggie Creek without causing significant erosion and stability problems. The implementation of mitigation measures sufficient to allow discharge of all dewatering flows into Maggie Creek would obviate any need for construction of a pipeline, and should therefore be adopted in the final EIS and the ROD in lieu of the Agency Preferred Alternative. Newmont will shortly be submitting such a proposed mitigation plan for the Maggie Creek channel.

Further, construction of the six-mile pipeline to the Humboldt River contemplated by the Agency Preferred Alternative would involve substantial additional land disturbance and significant capital costs--and the pipeline would be used only for a few years at the end of the dewatering period.

II. THE DEIS ESTIMATE OF THE OCTOBER BASE FLOW GAIN BETWEEN THE CARLIN TUNNELS AND PALISADES GAGES ON THE HUMBOLDT RIVER SHOULD BE REVISED.

B

The DEIS estimates the October base flow gain between the Carlin Tunnels and Palisade gages to be 19 cfs, using the arithmetic mean of October base flow gains between the two gages for their mutual period of record. DEIS at Page 3-25. A more recent revised estimate provided by the U.S. Geological Survey for base flow gain between Carlin and Palisade is 16 cfs. See Letter from U.S. Geological Survey to Newmont, July 6, 1993 (copy attached as Appendix 1 to these comments). This estimate reflects the median value of all October gains for the period 1944 to 1989.

LETTER NO. 14 **Newmont** **7-19-93**

Response A

See revised Agency Preferred Alternative in this FEIS (Chapter 2).

Response B

Thank you for the comment concerning the updated information on October baseflow gains in the Humboldt River between the Carlin Tunnels and Palisade gages. The reduced gain from 19 to 16 cfs indicates that there probably is less groundwater recharge to the river in this area than previously stated in the DEIS.

Mr. David Vandenberg
July 19, 1993
Page 3

As the letter attached as Appendix 1 indicates, the U.S. Geological Survey is in the process of revising its estimate of the October base flow gain between the Carlin Tunnels and Palisade gages. It appears that this revised estimate will be lower than the current 16 cfs estimate.

III. THE DISCUSSION ON THE NATURE OF EXISTING RIPARIAN RESOURCES AND THE MAGNITUDE OF POTENTIAL IMPACTS REQUIRES CLARIFICATION.

The DEIS states that "(t)here are 1,342 riparian acres potentially impacted" by the POO Amendment. DEIS at Page 4-67. This statement is intended to define the outer limit within which impacts to riparian acreage conceivably might occur. A more detailed analysis, considering that (1) several types of vegetation included in the DEIS analysis should not be considered "riparian" and (2) most of the riparian acreage in question is completely dependent on spring run-off flows that will not be impacted by mine dewatering, demonstrates that the amount of riparian acreage potentially impacted by mine dewatering will be far below the 1,342 acre figure cited in the DEIS.

C

(1) The DEIS includes in its estimate several types of vegetation that would not be considered "riparian" under accepted biological definitions. The DEIS defines riparian areas as "a form of wetland transition between permanently saturated wetlands and upland areas. These areas exhibit vegetation or physical characteristics reflective of permanent surface or subsurface water influence." DEIS at Page 3-53. The following vegetation types were included in the DEIS's analysis of potentially impacted riparian areas:

B2 Bench type	dominated by cheatgrass, sagebrush, rabbitbrush, and tansy mustard
Upland Meadow	dominated by upland and faculative grasses, sagebrush, rabbitbrush, and greasewood
Remnant Riparian	Dominated by upland grasses and shrubs with a minor component of coyote willow and/or rose

These three categories are upland vegetation types that are precipitation supported and therefore not dependent on or indicative of surface or subsurface water that could be affected by dewatering. The acreage of these three upland vegetation types should not be included in the analysis of potential riparian

Response C

We concur that these vegetation types and portions of other types dependent on surface flow (as opposed to flows from groundwater or subirrigation) are unlikely to be affected by drawdown. The 1,342 acres is a worst-case scenario for impacts within the predicted 10-foot drawdown contour interval.

Mr. David Vandenberg
July 19, 1993
Page 4

C impacts.[1] Thus, for purposes of the impacts analysis, at least the three types listed above should be excluded from Table 4-15 and the discussion on Page 4-68 of the DEIS, making the area of potentially affected riparian vegetation no more than 868.2 acres.

Only 132.9 of these 868.2 potentially affected acres are located on public lands. The remainder are located on lands owned or controlled by Newmont or on other private lands.

(2) In analyzing potential riparian impacts, BLM should consider that most of the riparian vegetation in question is completely dependent on spring run-off flows and will not be impacted by the temporary effects of mine dewatering on perennial stream flows. The DEIS implies that all riparian areas associated with a reach of stream are "potentially impacted" if the base flow of that stream reach may be affected by dewatering. In fact, the vast majority of the 868.2 riparian acres associated with these streams will not be affected in any way by Newmont's operations. Most of the riparian acreage included in the DEIS analysis results from and is dependent upon saturated soil conditions occurring during high flow periods, when spring runoff and precipitation are the overwhelming factors determining the extent of saturation. Because base flow is not a significant factor affecting the extent of saturation during the spring and early summer, reductions in base flow due to dewatering will have no appreciable impact on this riparian acreage.

D

Only a very small percentage of the riparian acreage identified in the DEIS is located in or immediately adjacent to perennial streambeds, and only these areas may experience some effect from base flow reductions during the low flow periods. Even with regard to these areas, however, the nature and duration of these effects should be clarified. Simply because a riparian area may be "affected" does not mean that it will be destroyed or lose its riparian characteristics. Rather, changes in the duration, extent or depth of soil saturation in a particular area may lead to evolution from one type of riparian vegetation to another. For example, low-lying meanders now vegetated by bulrush and cattail might be replaced by a willow/wet meadow. The very minor magnitude of this type of potential impact should be acknowledged.

Further, any affects to riparian areas will be temporal in nature. Ample local evidence indicates that a wide variety of

---

[1] See The National List of Plant Species That Occur in Wetlands; Intermountain (U.S. Fish & Wildlife Service, Region 8).

Response D

Comment noted. However, impacts to riparian areas within the zone of effect will be fully mitigated under the Mitigation Plan, regardless of the extent of those impacts.

Mr. David Vandenberg
July 19, 1993
Page 5

wetland plant species will return to an area once hydrologic conditions return to pre-project conditions.

E Finally, the DEIS Summary states that Alternative 3 offers a greater opportunity for riparian restoration along Maggie Creek than would the proposed action. DEIS at Page S-8. Because Alternative 3 provides for the diversion of discharge water through a pipeline to the Humboldt River, it would appear to offer less opportunity for such restoration than would the proposed POO Amendment.

IV. THE DEIS'S DISCUSSION OF LCT HABITAT REQUIRES CLARIFICATION.

F The statement on Page 4-89 of the DEIS that the POO Amendment "probably would degrade 10 to 12 miles of potential LCT habitat in middle Maggie Creek and Susie Creek" is an overstatement. Many references (including the U.S. Fish & Wildlife Service Draft Recovery Plan for LCT, and others cited therein) characterize LCT habitat as having nearly continuous (preferably 1:1) riffle-and-pool morphology with deep pools, substantial shading from streamside riparian vegetation and/or undercut banks, and in-stream cover objects. Wide shallow channels with unstable and eroding banks are not suitable habitat for this species.

A survey of middle Maggie Creek reveals that, except for the east branch for appoximately 0.75 miles from the narrows to the confluence with Simon Creek, the suitable habitat elements are practically not present anywhere within the predicted impact area. Instead, the stream channel is wide and shallow and has very unstable, eroding banks. The marginally suitable LCT habitat below Simon Creek and above the confluence with Little Jack Creek has a gravelly bed with riffles and pools, but even these areas still fall far short of the description of optimal habitat given in the Draft Recovery Plan for LCT.

G Much of the area identified as potential LCT habitat is entirely on private land. Therefore, it does not necessarily represent a potential restoration and reintroduction opportunity for BLM that would be lost due to the POO Amendment.

V. NO FURTHER STUDY OF SPRINGSNAILS IS NECESSARY.

H None of the three springs identified in the DEIS where springsnails have been found are within the zone of impact for Newmont's proposed mine dewatering. Thus, it is unnecessary to require further study of these three springs in connection with the POO Amendment.

Response E

We assume Newmont is referring to the Agency Preferred Alternative rather than Alternative 3. The point made in this comment is moot because the Agency Preferred Alternative has been modified in the FEIS for other reasons (see revised Agency Preferred Alternative, Chapter 2).

Response F

Any Lahontan cutthroat trout (LCT) habitat occurring within the 10 to 12 miles of middle Maggie Creek and Susie Creek would be enhanced by measures to increase riparian vegetation in these drainages. Although these areas are not currently optimal LCT habitat, they could be improved sufficiently to support populations of LCT (see Mitigation Plan, pages 6-14).

Response G

The DEIS does not identify potential LCT habitat in middle Maggie Creek as a potential restoration and reintroduction opportunity for the BLM that would be lost with the proposed action (see Mitigation Plan, pages 44-46). However, Newmont's Mitigation Plan would help to restore middle Maggie Creek, as well as the upper tributaries of Maggie Creek that presently sustain Lahontan Cutthroat Trout.

Response H

See Letter 5, Response S.

Mr. David Vandenberg
July 19, 1993
Page 6

Further, because the three springs where springsnails have been found appear to be the only springs in the area from which livestock have been excluded for a long period of time, it seems reasonable to conclude that no springsnails were found in the other springs located within the study area because livestock have had access to those springs.

VI. THE SUMMARY COMPARISON OF IMPACTS SHOULD BE UPDATED.

I

Certain of the comments in the Summary Comparison of Impacts table need to be updated so as to be consistent with the text of the DEIS. See DEIS at Page 4-135. For example, the table states that the POO Amendment would result in "decreased dissolved oxygen concentrations in receiving waters." DEIS at Page 4-135. This statement is inconsistent with the text of the DEIS, which correctly points out that no water quality impacts will result from the proposed POO Amendment because of the inclusion of the water treatment facility as a part of Newmont's proposal. See DEIS at 4-41.

Also, the table mentions "seepage of treated waters into Maggie Creek alluvium" as a potential impact on groundwater quality. Again, this should be updated to reflect the text's conclusion as to water quality impacts.

VII. THE CUMULATIVE IMPACTS DISCUSSION REQUIRES CLARIFICATION.

J

Table 4-20 of the DEIS suggests that no reasonably foreseeable mining disturbance will occur at Newmont's Post Mine from 1992 to 2001 (see Item 8 in the table). In fact, the Post Mine is an active mine and some mining disturbance will occur during this period. Newmont will provide BLM with the amount of potentially disturbed acreage for the Post Mine during this period as soon as it is available.

K

Also, the DEIS in several places discusses the potential effects of continued dewatering operations at Barrick's Betze and proposed Meikle mines. Newmont understands that Barrick has instituted a monitoring and analysis program to confirm and/or refine predictions of the potential cone of depression and drawdown effects of this dewatering, and regularly provides BLM with information generated in connection with this ongoing program. It is assumed that BLM will rely on the information and analysis supplied by Barrick in assessing Barrick's dewatering.

Newmont appreciates the opportunity to comment on the DEIS, and invites any follow-up questions or comments from BLM.

Sincerely yours,

David A. Baker

David A. Baker
Vice President,
Environmental Affairs

Response I

Comment noted.

Response J

Based upon information supplied by Newmont, it is anticipated that there will be an additional 244 acres of disturbance, all on private land, associated with the Post Mine (see Errata, Chapter 3).

Response K

Barrick's ongoing program of hydrologic modeling and geotechnical studies has supplied BLM with additional information concerning the potential effects of Barrick's dewatering activities for the Betze and proposed Meikle mines. The field examinations, hydrogeological evaluations, and geochemical studies indicate that no hydrogeologic connection exists between the groundwater system being pumped by Barrick and surface waters on the eastern slope of the Tuscarora Mountains. Using a worst-case assumption that a hydrologic connection exists, studies indicate that there would be only a slight potential to reduce base flows for short reaches of Coyote, Little Jack and Beaver creeks where these drainages emanate from the mountain front. Barrick has committed to and has begun installing an expanded monitoring well system and an injection well system at the foot of the western slope of the Tuscarora Mountains. The reinjection system will establish a groundwater mound on the west side of the Tuscarora Mountains that will prevent any effects of Barrick's dewatering operations from being transmitted to the Tuscarora Mountains. On the basis of this information, BLM has concluded that the cone of depression created by Barrick's dewatering activities will not impact surface water sources in Maggie Creek Basin. Therefore, the most recent available evidence demonstrates that there will be no additive groundwater drawdown due to the cones of depression from Newmont and Barrick dewatering operations (see Chapter 3, Errata).

Letter #15

ELKO COUNTY SnoBowl COMMITTEE
P.O. Box 288
Elko, Nevada 89801

David Vandenberg
EIS Coordinator
P.O. Box 831
Elko, NV 89801

July 19, 1993

Dear Mr. Vandenberg:

The Board of Directors of the Elko County Snobowl would like to go on record in support of the May 1993 draft of the Environmental Impact Statement for Newmont Gold Company's South Area Operations Project.

The local community continues to benefit from the mining operations of Newmont. These benefits have been economic in the form of employment, taxes and direct contributions. In addition many social and recreational benefits have been realized by the community as a result of Newmont's mining operation.

As members of the community we are of course concerned about the environment. We believe that the EIS prepared for Newmont's South Area project adequately addresses the impact of its expansion on both our city and our environment. We ask that the positive social and economic impacts of this project be considered in this EIS process as well.

Thank you for your consideration.

Yours truly,
Charles Chester
Charles Chester
Chairman, Elko County Snobowl

LETTER NO. 15 **Charles Chester** **7-19-93**

Comment noted.

Letter #16

EVERGREEN MANAGEMENT CONSULTANTS
P.O. Box 2556
Elko, Nevada 89801
738-9328

July 16, 1993

Bureau of Land Management
Elko District Office
Post Office Box 831
Elko, Nevada 89803

Attention: Mr. David Vandenberg
EIS Coordinator
Fax: 753-0255

Dear David:

I am writing to you as a vested member of the Elko County community and my perspective as the Renewable Resources Representative on the BLM Citizens Advisory Committee. My comments are in regard to the EIS on Newmont Gold Company's South Operations Area Project.

I vehemently support appropriate mitigation and monitoring plans to detect and minimize all impacts, irretrievable or not, in regard to the proposed plan of operations submitted by Newmont Gold Company.

I believe that the minerals in the soil should be available for man to retrieve if done in a way that does the least present and future harm to the environment. After reading the potential effects of the increased mining operation and dewatering activities, all due care should be taken to protect the habitats, water resources and wildlife from the adverse effects of mining.

I have had the great fun and pleasure of participating in tree planting projects sponsored by a civic group to which I belong and the BLM. It was gratifying to think that the trees I planted would help to reverse the degradation of the streams, help the fish and possibly return these areas to conditions that were present in pioneer days. To picnic under these trees or fish in these streams was and is a dream of mine.

Bureau of Land Management
July 16, 1993
Page Two

A *It is shocking to read that 1,342 riparian acres will be destroyed or greatly impacted by the mining activity. Given that the areas around springs, seeps or streams are not that wide, that's onerous for an area that does not have that much in water and wetlands to begin with.*

I read that it will take 100 years for complete recovery. In the scheme of time that is hardly noticeable but it will far outreach my lifetime. For me, that's as great as forever. My today will be someone else's tomorrow. Generations of the future may never know what these areas looked like with adequate water and care. Please help to ensure that they will.

If I may be of further assistance let me know.

Sincerely,

Ester Quilici

Ester M. Quilici
Co-Owner

EMQ:hc

cc: File

LETTER NO. 16 **Ester M. Quilici** **7-16-93**

Response A

The DEIS states that Newmont's proposed action would potentially affect 1,342 riparian acres. Impacts on riparian areas would vary from minimal to major depending on magnitude of drawdown, discharge rate, water source and effective mitigation (see DEIS, page 4-67 and Letter 14, Response C).

Letter #17

NENDA

"Promoting Economic Development and Diversification Throughout Elko County"

Representing:

City of Carlin

City of Elko

County of Elko

City of Wells

City of West Wendover

July 19, 1993

Mr. David Vandenberg
EIS Coordinator
P.O. Box 831
Elko, NV 89801

Dear Mr. Vandenberg:

The Board of Directors of the North East Nevada Development Authority (NENDA) supports the May 1993 draft of the Environmental Impact Statement (EIS) for Newmont Gold Company's South Area Operations Project.

Part of NENDA's mission is to foster and protect strong socio-economic and environmentally sound growth. We, as members of the community, are concerned about the sanctity of our environment. We believe the EIS prepared by Newmont's South Area Project adequately addresses the impact of its' expansion on both the city of Elko and the environment.

It is the conclusion of the North East Nevada Development Authority that this expansion will benefit not only the citizens of the City of Elko, but all area residents. We recommend approval of Newmont Gold Company's proposed expansion as outlined in the Environmental Impact Statement released for public review on May 13, 1993

Respectfully submitted on behalf of theBoard of Directors of the North East Nevada Development Authority,

Deborah M. Smith

Deborah M. Smith
Executive Director

P.O. Box 2812 • Elko, Nevada 89801 • (702) 738-2100 • FAX (702) 738-7978

LETTER NO. 17 **Deborah M. Smith** **7-19-93**

Comment noted

Letter #18

DEPARTMENT OF HEALTH & HUMAN SERVICES
Public Health Service

Centers for Disease Control
Atlanta GA 30333

July 14, 1993

David Vandenberg, EIS Coordinator
Elko District Office
Bureau of Land Management
P.O. Box 831
Elko, Nevada 89803

Dear Mr. Vandenberg:

We have completed our review of the Draft Environmental Impact Statement (DEIS) for the Newmont Gold Company's South Operations Area Project. We are responding on behalf of the U.S. Public Health Service.

We have reviewed the Draft EIS for potential adverse impacts on human health. We believe this DEIS is well written and has addressed public health related issues. We do have concerns about effects upon ground and surface waters, however, we believe the document has addressed these concerns and appropriate mitigation measures have been considered in selecting the preferred alternative. The availability of safe drinking water sources for affected residences and commmunities must remain a priority throughout the duration of this project.

We note that aa a result of acceptable construction and management practices, acid-neutralizing soils, the relatively deep groundwater, and continuation of the existing waste rock monitoring program, neither the pits nor the waste rock disposal areas are expected to be potential sources of acid drainage. It is further noted that "potential instability of waste dumps, tailing storage facilities, and pit slopes would be mitigated through proper design and construction." As with any project of this type, the success of controlling potential impacts depends on the effectiveness of operations, therefore, adequate management of daily operations, in addition to water monitoring plans, will be an important aspect to the success of this project. Assurances must be made that dewatering discharge is treated and meets the National Pollutant Discharge Elimination System (NPDES) permit requirements. We note that this permit application has been submitted to the State of Nevada.

Thank you for the opportunity to review and comment on this document. Please ensure that we are included on your mailing list to receive a copy of the Final EIS, and future EIS's which may indicate potential public health impact and are developed under the National Environmental Policy Act (NEPA).

Sincerely yours,

Kenneth W. Holt

Kenneth W. Holt, M.S.E.H.
Special Programs Group (F29)
National Center for Environmental Health

LETTER NO. 18 **Kenneth W. Holt**

Comment noted.

Letter #19

PETER G. MORROS
Director
Department of Conservation
and Natural Resources

PAMELA B. WILCOX
Administrator

BOB MILLER
Governor

State Land Office
State Land Use Planning Agency
Address Reply to
Division of State Lands
Capitol Complex
Carson City, Nevada 89710
(702) 687-4163

STATE OF NEVADA
DEPARTMENT OF CONSERVATION AND NATURAL RESOURCES
Division of State Lands

July 16, 1993

M E M O R A N D U M

TO: Ron Sparks, State Clearinghouse

FROM: Mike Del Grosso, Planner

SUBJECT: EIS, South Operations Area Project (SAI NV 93100118)

The Division of State Lands has coordinated the comments from the various divisions of the Department of Conservation and Natural Resources. Attached are the comments from the Divisions of Forestry, Conservation Districts, Historic Preservation and Archeology, and Environmental Protection. Comments from the Division of Water Resources will be sent to you directly from that agency.

The Division of State Lands has reviewed the EIS and has no comments on the project to offer at this time.

Attachments

cc: Pete Morros

JMD/jmd

LETTER NO. 19 **Mike Del Grosso** **7-16-93**

Comment noted

Letter #20

CLEARING HOUSE COMMENTS

SAI NV # 93100118

TITLE: EIS, South Operations Area Project
DATE RECEIVED: 6-7-93
DUE DATE: 7-9-93

******(PLEASE RETURN TO CLEARING HOUSE COORDINATOR)*******

AIR QUALITY:
Initials

FEDERAL FACILITIES:
Initials NC 6/24/93

drc

MINING REGULATION & RECLAMATION:
Initials DZ

7/15 nc comments at this time

WASTE MANAGEMENT:
Initials

NC 6/25/93

CHEMICAL HAZARDS:
Initials AB AN SPILL PLAN MAY BE A GOOD PRACTICE FOR THE BULK STORAGE OF PRODUCT.

WATER POLLUTION CONTROL:
Initials ______

WATER QUALITY PLANNING:
Initials ______

LETTER NO. 20 Clearing House Comments 7-9-93

Comment noted.

Letter #21

BOB MILLER
Governor

STATE OF NEVADA

PETER G. MORROS
Director

RONALD M. JAMES
State Historic Preservation Officer

DEPARTMENT OF CONSERVATION AND NATURAL RESOURCES
DIVISION OF HISTORIC PRESERVATION AND ARCHEOLOGY
123 W. Nye Lane, Room 208
Capitol Complex
Carson City, Nevada 89710
(702) 687-5138

June 15, 1993

M E M O R A N D U M

TO: Pam Wilcox
Division of State Lands

FROM: Eugene M. Hattori, Archaeologist

SUBJECT: Draft EIS, South Operations Area, Newmont Gold, Elko Co.

The Nevada Division of Historic Preservation and Archeology reviewed the subject draft EIS. The discussion on cultural resources adequately presents what is presently known about historic properties within the area of potential effect. The document also recognizes BLM's future obligations for compliance with Section 106 of the National Historic Preservation Act of 1966, as amended.

Please note that this memo does not constitute Section 106 consultation between the Nevada SHPO and a federal agency. Thank you for the opportunity to comment upon this undertaking.

LETTER NO. 21 Eugene M. Hattori 7-15-93

Comment noted.

Letter #22

Nevada State Clearinghouse

Department of Administration
Budget Division
Blasdel Bldg. Rm. 204
Carson City, Nv. 89710
687-4065

DATE: June 3, 1993

TO:

____ Governor's Office
XXX Agriculture
____ Colorado River Comm.
____ Communications Bd.
____ Community Services
____ Economic Development
____ Fire Marshal
____ Human Resources
____ Aging Services
____ Health Division
____ Health Protection

____ Legislative Counsel Bureau
XXX XXX Minerals
____ Nuclear Projects Ofc.
____ PSC
____ Tourism
XXX Transportation
____ UNR Mines Bureau
____ UNR Library
____ Wild Horse Commission
XXX XXX Wildlife
____ Natural Heritage

Conservation-Natural Resources:
XXX Director's Office
XXX State Lands
XXX Environmental Protection
XXX Forestry
XXX Historic Preservation
XXX Conservation Districts
____ State Parks
XXX Water Resources
____ Water Planning

Nevada SAI #93100118

Project: EIS, South Operations Area Project

CLEARINGHOUSE NOTES:

Attached, for your review and comment, is a copy of the above mentioned project. Please evaluate it with respect to its effect on your plans and programs; the importance of its contribution to state and/or local areawide goals and objectives; and its accord with any applicable laws, orders or regulations with which you are familiar.

Please submit your comments no later than July 16, 1993. Use the box below for short comments. If significant comments are provided, please use agency letterhead and include the Nevada SAI number and comment due date for our reference.

THIS SECTION TO BE COMPLETED BY REVIEWING AGENCY:

X No comment on this project
____ Proposal supported as written
____ Additional information below

____ Conference desired (See below)
____ Conditional support (See below)
____ Disapproval (Explain below)

AGENCY COMMENTS:

Signature ____ Date 6/22/93

LETTER NO. 22 Nevada State Clearinghouse 6-3-93

Comment noted.

Letter #23

BOB MILLER
Governor

STATE OF NEVADA
DEPARTMENT OF MINERALS
400 W. King Street, Suite 106
Carson City, Nevada 89710
(702) 687-5050
Fax (702) 687-3957

Las Vegas Branch
4220 S. Maryland Pkwy
Suite 304
Las Vegas, Nevada 89119
(702) 486-7250
Fax (702) 486-7252

RUSSELL A. FIELDS
Executive Director

July 15, 1993

Ron Sparks, Clearinghouse Coordinator
Department of Administration
Budget Division
Blasdel Building, Room 204
Carson City, NV 89710

Re: Nevada SAI #93300118, Due Date July 16, 1993, Draft EIS,
Newmont Gold Company South Operations Area Project

The Department of Minerals has reviewed the EIS for the Newmont South Operations Area Project.

This is a major project which will ensure an on-going supply of gold to consumers and will provide stable employment and revenues to the benefit of federal, state, and local governments, and to the private sector well into the early part of the 21st century.

The designs of pits, haul roads, and placement of ancillary facilities maximize efficiency and will result in as little land disturbance as possible with as little disruption, as possible, to wildlife and human populations in the vicinity.

Removal of extensive sulfide ore zones in the mining process will result in little or no potential for the generation of acidic waters from the open pits. This is due to the abundance of carbonate materials left in the pit walls which will effectively neutralize any acidity caused by small amounts of sulfide material not mined. Sulfide-bearing waste rock and ore stockpiles will be monitored for acid-production potential.

The challenges are many, particularly those dealing with the handling of groundwater generated by deepening of the Gold Quarry pit. The Proposed Action and the several alternatives discussed in the EIS contain methods which, used separately or in combination, will minimize impacts on Maggie Creek, the Humboldt River, and to the surrounding groundwater system.

The Department of Minerals recommends that economic factors be a part of the consideration in the selection of method(s) used for the treatment and disposal of pit waters.

LETTER NO. 23 Bill Durbin 7-15-93

Comment noted.

The South Operations Area Project Proposed Action has addressed all of the major components of mining and milling activities, environmental considerations, public safety, and reclamation plans using sound engineering and technological methods and practices.

The Nevada Department of Minerals encourages responsible development of mineral resources on Nevada's public lands. The Newmont Gold South Operations Area Project has our full support.

Sincerely,

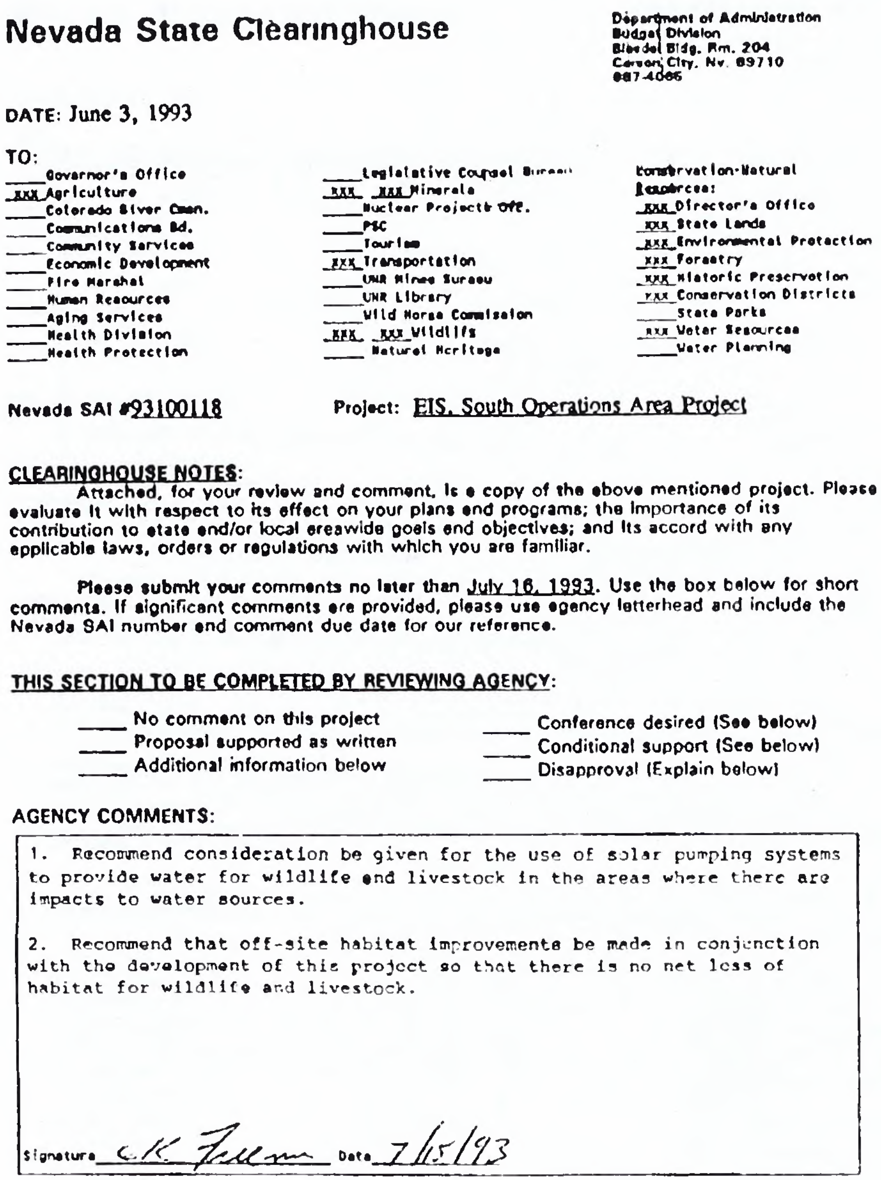
Bill Durbin

Bill Durbin
Field Specialist

BD/bd

\southop\

Letter #24



Nevada State Clearinghouse

Department of Administration
Budget Division
Blasdel Bldg. Rm. 204
Carson City, Nv. 89710
687-4065

DATE: June 3, 1993

TO:

____ Governor's Office
XXX Agriculture
____ Colorado River Comm.
____ Communications Bd.
____ Community Services
____ Economic Development
____ Fire Marshal
____ Human Resources
____ Aging Services
____ Health Division
____ Health Protection

____ Legislative Counsel Bureau
XXX XXX Minerals
____ Nuclear Projects Off.
____ PSC
____ Tourism
XXX Transportation
____ UNR Mines Bureau
____ UNR Library
____ Wild Horse Commission
XXX XXX Wildlife
____ Natural Heritage

Conservation-Natural Resources:
XXX Director's Office
XXX State Lands
XXX Environmental Protection
XXX Forestry
XXX Historic Preservation
XXX Conservation Districts
____ State Parks
XXX Water Resources
____ Water Planning

Nevada SAI #93100118

Project: EIS, South Operations Area Project

CLEARINGHOUSE NOTES:

Attached, for your review and comment, is a copy of the above mentioned project. Please evaluate it with respect to its effect on your plans and programs; the importance of its contribution to state and/or local areawide goals and objectives; and its accord with any applicable laws, orders or regulations with which you are familiar.

Please submit your comments no later than July 16, 1993. Use the box below for short comments. If significant comments are provided, please use agency letterhead and include the Nevada SAI number and comment due date for our reference.

THIS SECTION TO BE COMPLETED BY REVIEWING AGENCY:

____ No comment on this project
____ Proposal supported as written
____ Additional information below

____ Conference desired (See below)
____ Conditional support (See below)
____ Disapproval (Explain below)

AGENCY COMMENTS:

A

1. Recommend consideration be given for the use of solar pumping systems to provide water for wildlife and livestock in the areas where there are impacts to water sources.

2. Recommend that off-site habitat improvements be made in conjunction with the development of this project so that there is no net loss of habitat for wildlife and livestock.

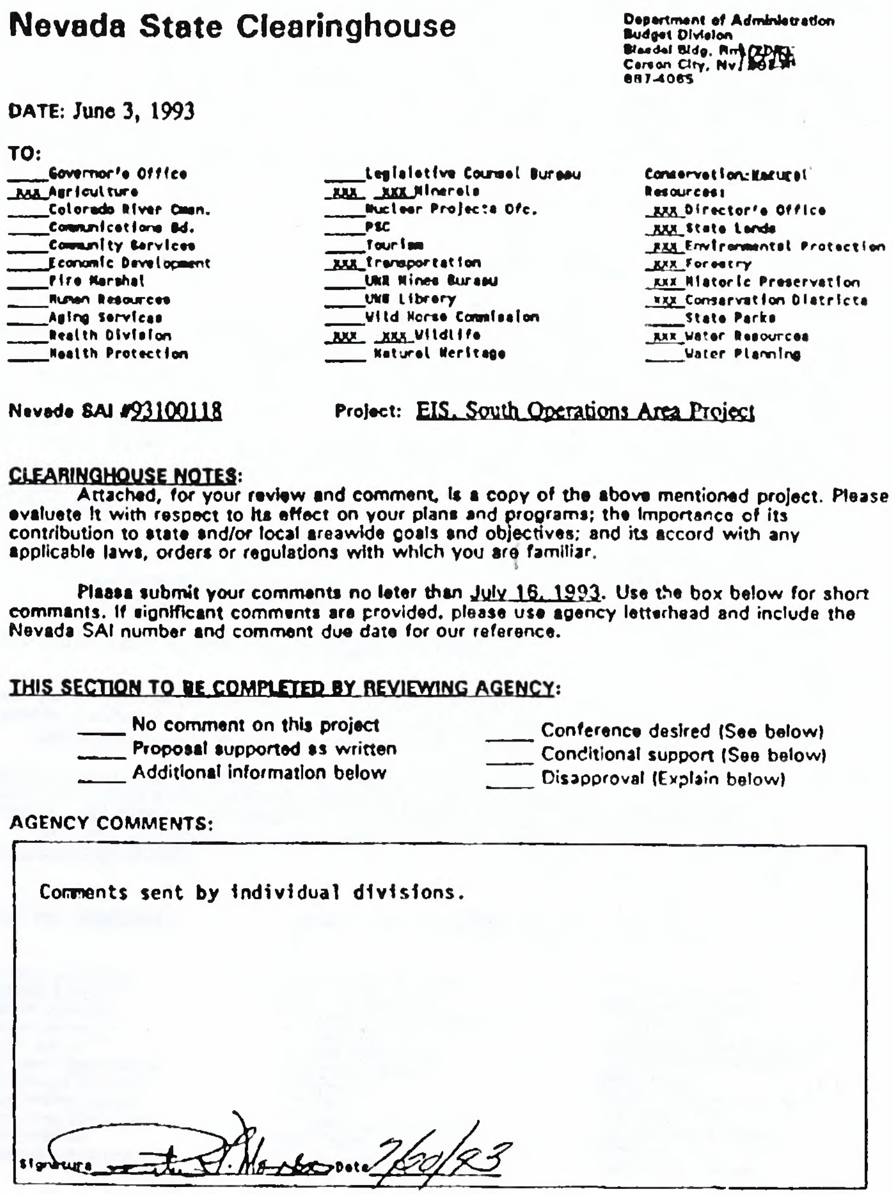
Signature C.K. Fullen Date 7/15/93

LETTER NO. 24	**Nevada State Clearinghouse**	**7-15-93**

Response A

Comments noted. See Mitigation Plan, pages 28-29, for information regarding the use of solar pumping systems at springs and seeps. The Mitigation Plan provides for on-site and off-site habitat improvements such that there is no net loss of habitat.

Letter #25



Nevada State Clearinghouse

Department of Administration
Budget Division
Blasdel Bldg. Rm [illegible]
Carson City, NV [illegible]
687-4065

DATE: June 3, 1993

TO:
____Governor's Office
XXX Agriculture
____Colorado River Comn.
____Communications Bd.
____Community Services
____Economic Development
____Fire Marshal
____Human Resources
____Aging Services
____Health Division
____Health Protection
____Legislative Counsel Bureau
XXX XXX Minerals
____Nuclear Projects Ofc.
____PSC
____Tourism
XXX Transportation
____UNR Mines Bureau
____UNR Library
____Wild Horse Commission
XXX XXX Wildlife
____Natural Heritage
Conservation-Natural Resources:
XXX Director's Office
XXX State Lands
XXX Environmental Protection
XXX Forestry
XXX Historic Preservation
XXX Conservation Districts
____State Parks
XXX Water Resources
____Water Planning

Nevada SAI #93100118 Project: EIS, South Operations Area Project

CLEARINGHOUSE NOTES:

Attached, for your review and comment, is a copy of the above mentioned project. Please evaluate it with respect to its effect on your plans and programs; the importance of its contribution to state and/or local areawide goals and objectives; and its accord with any applicable laws, orders or regulations with which you are familiar.

Please submit your comments no later than July 16, 1993. Use the box below for short comments. If significant comments are provided, please use agency letterhead and include the Nevada SAI number and comment due date for our reference.

THIS SECTION TO BE COMPLETED BY REVIEWING AGENCY:

____ No comment on this project
____ Proposal supported as written
____ Additional information below
____ Conference desired (See below)
____ Conditional support (See below)
____ Disapproval (Explain below)

AGENCY COMMENTS:

Comments sent by individual divisions.

Signature ____ Date 7/20/93

LETTER NO. 25 Nevada State Clearinghouse 7-20-93

Comment noted

Letter #26

Nevada State Clearinghouse

Department of Administration
Budget Division
Blasdel Bldg. Rm. 204
Carson City, Nv. 89710
687-4065

DATE: June 3, 1993

TO:
____ Governor's Office
XXX Agriculture
____ Colorado River Comn.
____ Communications Bd.
____ Community Services
____ Economic Development
____ Fire Marshal
____ Human Resources
____ Aging Services
____ Health Division
____ Health Protection
____ Legislative Counsel Bureau
XXX XXX Minerals
____ Nuclear Projects Ofc.
____ PSC
____ Tourism
XXX Transportation
____ UNR Mines Bureau
____ UNR Library
____ Wild Horse Commission
XXX XXX Wildlife
____ Natural Heritage
Conservation-Natural Resources:
XXX Director's Office
XXX State Lands
XXX Environmental Protection
XXX Forestry
XXX Historic Preservation
XXX Conservation Districts
____ State Parks
XXX Water Resources
____ Water Planning

Nevada SAI #93100118 Project: EIS, South Operations Area Project

CLEARINGHOUSE NOTES:
Attached, for your review and comment, is a copy of the above mentioned project. Please evaluate it with respect to its effect on your plans and programs; the importance of its contribution to state and/or local areawide goals and objectives; and its accord with any applicable laws, orders or regulations with which you are familiar.

Please submit your comments no later than July 16, 1993. Use the box below for short comments. If significant comments are provided, please use agency letterhead and include the Nevada SAI number and comment due date for our reference.

THIS SECTION TO BE COMPLETED BY REVIEWING AGENCY:

____ No comment on this project
____ Proposal supported as written
____ Additional information below
____ Conference desired (See below)
____ Conditional support (See below)
____ Disapproval (Explain below)

AGENCY COMMENTS:

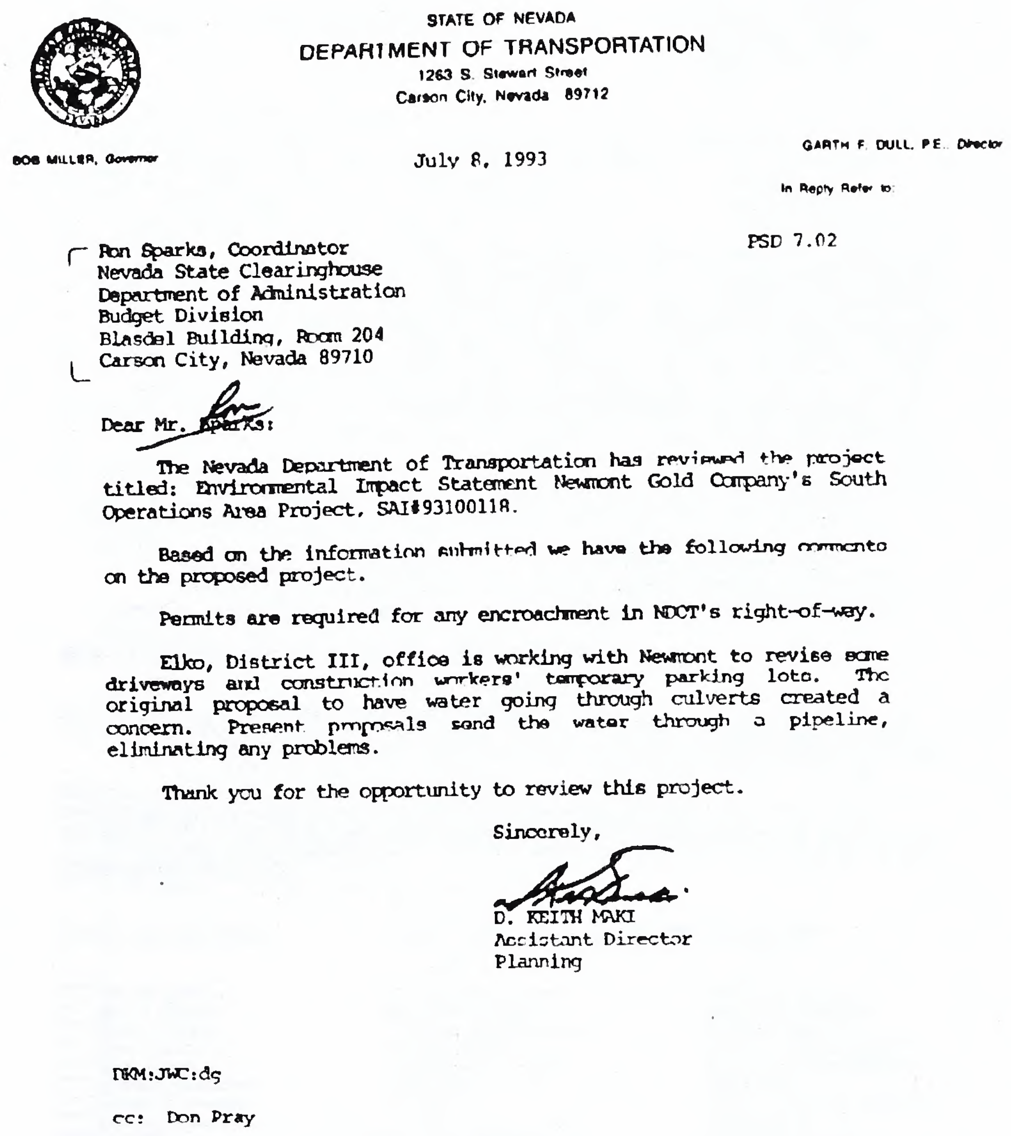
The State Engineer has at this time eight applications on file to appropriate water for the purposes of dewatering within the area of the South Operations Area Project. These applications were protested by a number of parties which had various concerns as to the impacts resulting from this pumping. The State Engineer at this time has taken no action on any of the applications. Since the matter of these protested applications are pending the State Engineer must reserve any comments on this draft Environmental Impact Statement.

Signature ____ Date ____
HUGH RICCI, P.E. July 20, 1993
Deputy State Engineer

LETTER NO. 26 Hugh Ricci 7-20-93

Comment noted.

Letter #27



STATE OF NEVADA
DEPARTMENT OF TRANSPORTATION
1263 S. Stewart Street
Carson City, Nevada 89712

BOB MILLER, Governor

GARTH F. DULL, P.E., Director

July 8, 1993

In Reply Refer to:

PSD 7.02

Ron Sparks, Coordinator
Nevada State Clearinghouse
Department of Administration
Budget Division
Blasdel Building, Room 204
Carson City, Nevada 89710

Dear Mr. ~~Sparks~~ Ron:

The Nevada Department of Transportation has reviewed the project titled: Environmental Impact Statement Newmont Gold Company's South Operations Area Project, SAI#93100118.

Based on the information submitted we have the following comments on the proposed project.

Permits are required for any encroachment in NDOT's right-of-way.

Elko, District III, office is working with Newmont to revise some driveways and construction workers' temporary parking lots. The original proposal to have water going through culverts created a concern. Present proposals send the water through a pipeline, eliminating any problems.

Thank you for the opportunity to review this project.

Sincerely,

D. KEITH MAKI
Assistant Director
Planning

DKM:JWC:dg

cc: Don Pray

LETTER NO. 27 D. Keith Maki 7-8-93

Comment noted.

Letter #28

United States Department of the Interior

FISH AND WILDLIFE SERVICE
911 N. E. 11th Avenue
Portland, Oregon 97232-4181

Memorandum

To: State Director, Bureau of Land Management
Reno, Nevada, Attention: David Vandenberg, EIS Coordinator

From: Acting Regional Director, U.S. Fish and Wildlife Service
Region 1, Portland, Oregon

Subject: Review of and Comments on Draft Environmental Impact Statement for Newmont Gold Company's South Operations Area Project, Elko and Eureka Counties, Nevada (EC#93/35)

The Fish and Wildlife Service (Service) has reviewed the Draft Environmental Impact Statement (DEIS) for Newmont Gold Company's South Operations Area Project, Elko and Eureka Counties, Nevada. The following comments are provided for your information and use when preparing the final documents.

GENERAL COMMENTS

A significant issue relating to this and other mining projects in the area is the cumulative effects associated with mine dewatering. We understand that the Bureau of Land Management (Bureau) is funding the U.S. Geological Survey to conduct an impact analysis on ground water withdrawals in the Carlin area. We believe that the impacts from mine dewatering cannot be fully evaluated until the withdrawal study results become available in February of 1995.

In addition to the mitigation proposed in the DEIS, we recommend the following measures be adopted:

A
- The long-term impact from the loss of 627 acre-feet per year (390 gpm or 0.9 cfs) through evaporation from the final Gold Quarry Pit Lake may be mitigated by the applicant purchasing an equivalent amount of existing senior water rights in the area and transferring them to a resource management agency for "wildlife purposes" as defined in NRS 533.023.

B
- Long term riparian habitat losses, estimated to extend over a 100 year period, may be mitigated by the applicant purchasing an equivalent amount of existing senior water rights in the project vicinity and transferring them to a resource management agency for "wildlife purposes" as defined in NRS 533.023.
- The amount of water purchased should be based upon the estimated contribution from the seeps and springs, impacted by the Newmont project, during the period of their greatest contribution to habitat used by our Nation's public trust biological resources.

LETTER NO. 28 **William E. Martin** **8-12-93**

Response A

Newmont will subordinate its existing senior water rights to ensure that other water rights are protected in the Maggie Creek and Humboldt basins (see Mitigation Plan, pages 35-37). The volume of water loss associated with evaporation from the pit lake is included in the calculation of the amount of senior water rights that will be subordinated.

Response B

The Mitigation Plan addresses potential impacts to riparian habitat by employing mitigation measures that will prevent loss of riparian habitat, rather than compensating for losses after they occur. These measures include the Maggie Creek Watershed Restoration Plan, and augmentation of seeps, springs, and stream flows affected by dewatering (see Mitigation Plan, pages 6-14 and 24-34).

SPECIFIC COMMENTS

C Page 2-37, Reclamation, Page 2-37, Second Column: In the first paragraph, a more quantitative definition of "feasible and reasonable" is needed to fully evaluate the proposed reclamation.

The results of proposed reclamation on test plots will demonstrate any need to modify reclamation procedures. We recommend release of the reclamation bond only after all expansion related disturbances on the demonstration sites have been reclaimed. The reclamation bond should be forfeited if present or modified reclamation procedures are unable to reclaim the test sites.

Response C

Newmont's Mitigation Plan provides for a more definitive reclamation plan than was contained in the Plan of Operations (see Mitigation Plan, pages 59-66). "Feasible and reasonable" activities are those which are determined to be economically and technologically feasible within the context of the project and/or are in conformance with standards of practice for the industry and with state and federal regulations.

D Page 2-44, Tailing Storage Facility, Second Column: The third paragraph states, "After seedbed preparation by discing or harrowing, the tailing storage facility would be broadcast seeded with the dry-site seed mixture of native and introduced species (Table 2-11)." We recommend against the planting of introduced species unless they would serve as nurse plants and die out within a few years. Native species indigenous to the area should be used for reclamation with an overall goal of restoration of the natural ecosystem.

Response D

Results of vegetation test plots may show that introduced species would outperform native species. If native species are unsuccessful, the option is available to modify seed mixes to include introduced species (see Mitigation Plan, pages 60-65).

E Page 4-2, Geology and Minerals, Direct and Indirect Impacts, Proposed Action: As encapsulation is the only measure identified to prevent acid generation in almost one quarter of the waste rock (44 of 181 million tons), specific techniques of encapsulation, and their effectiveness in preventing development of acid generation, should be addressed. If encapsulated rock can potentially become acidic, mobilization of acid and associated leached materials from encapsulated rock during precipitation events should also be discussed.

Response E

Encapsulation of the estimated 44 million tons of potentially acid-producing waste rock is described on pages 2-15 and 2-30 of the DEIS. These descriptions reference specific documents and authorizations pertaining to the assessment of the encapsulation. As summarized on pages 4-2 through 4-4 of the DEIS, the proposed encapsulation when combined with (a) the humidity cell test results that indicate mixed waste that is classified es "potentially acid-producing" may not produce acid, (b) the relative amounts of potentially acid-producing waste rock and neutralizing waste rock, (c) the arid climate, end (d) the monitoring plan is judged to reasonably mitigate the risk of a significant impact resulting from acid rock drainage (ARD) generation from the waste rock. In addition, see Newmont's Mitigation Plan (pages 41-42).

F Page 4-4, Direct and Indirect Impacts, Proposed Action, First Column: Waste rock tailings materials should be tested for potential leachability of metals and other constituents (EPA Method 1312, Synthetic Precipitation Leaching Procedure). The potential for mobilizing leached constituents during precipitation events and potential impacts to fish and wildlife should be fully discussed.

Page 4-4, Geology and Minerals, Potential for Mitigation and Monitoring, Second Column, Third Paragraph: Since only monitoring programs have been identified, mitigation measures should be included in the final documents as a contingency for acid generation.

Response F

It is unclear whether the commenter is discussing waste rock or tailings; however, this response addresses both materials. The South Operations Area has been in operation for 13 years. Under existing water pollution control permits issued by the Nevada Department of Environmental Protection, both waste rock and tailings are tested for Meteoric Water Mobility Analysis on a quarterly basis. These tests would continue throughout the life of the project and are expected to give ample warning of potential leachate generation problems. Benign results of such tests to date, existing groundwater and surface water monitoring, and the arid climate are judged to reasonably mitigate the risk of significant impact from leached constituents during precipitation events (see Mitigation Plan, pages 41-42).

G Page 4-14, Water Resources, Impacts on Groundwater Levels, Page Four - Fourteen, First Column: The second paragraph states, "Groundwater in the mine pit would recover to approximately 95 percent or within 40 feet of the premining level 18 years after dewatering ceases..." However, on page 3-40, first column, third paragraph, it is stated, "Water level declines of up to 40 feet in the siltstone and carbonate aquifers have been observed since 1989 near the Gold Quarry Mine as a result of groundwater pumping..." The final documents should clarify whether ground water will recover to within 40 feet of all premining activities or 40 feet of its present level.

Response G

According to the numerical groundwater model, groundwater is predicted to recover within 40 feet of all premining activities.

H

Page 4-41. Impacts on Surface Water Quality, Second Column: Although no water quality impacts are expected because of the proposed water treatment facility and concentrations of dissolved solids and trace elements are within Nevada Water Quality Standards, cumulative impacts could be substantial. Ground water, which would be discharged, contains total dissolved solids concentrations between 330 to 400 mg/L. At a concentration of 400 mg/L, 25 to 100 tons of dissolved solids would be discharged per day. Over the life of the mine, a total of 272,000 tons of dissolved solids would be discharged to the Humboldt River system. Dissolved solids consist of potentially toxic, teratogenic, and carcinogenic properties. They include trace elements of arsenic, boron, selenium, etc. At the proposed discharge rates and expected concentrations, significant amounts of these elements will be discharged to the Humboldt River system. Over the life of the mine, a total of 6.8 tons of arsenic, 4.8 tons of selenium, and 136 tons of boron will be discharged. These materials may be transported to wetlands at the terminus of the Humboldt River.

A recent study of these wetlands (Sieler et al., in press) has identified arsenic, selenium, and boron in water, sediment, and biota at levels that may adversely impact fish and wildlife. Potentially affected wildlife includes migratory birds, species designated as category 2 candidates for Federal listing as threatened and endangered, and possibly the bald eagle (*Haliaeetus leucocephalus*), a species listed as endangered under the Endangered Species Act of 1973, as amended (Act). Additional loading of trace elements would exacerbate this problem. Impacts to fish and wildlife may be compounded when the period of increased dissolved solids and trace element loading is followed by a period of reduced flows in the Humboldt River. We recommend that these potential impacts to migratory birds and endangered species in terminal wetland areas be fully addressed in the final documents. If listed species may be affected, consultation with the Service pursuant to section 7 of the Act is required. If proposed species are likely to be jeopardized, conferencng is required.

Page 4-42. Impacts from Mine Pit Water Recovery, Second Column: The second paragraph indicates that the quality of water in the Gold Quarry Pit Lake would be similar to or lower in dissolved metal concentrations than the premining ore zone ground water. This conclusion is based on: 1) removal of ground water associated with the ore zone during dewatering; 2) removal of most of the mineralized zone during mining; and 3) adsorption and deposition of trace metals on ferric hydroxide. Our comments on the assumptions for this conclusion are as follows:

I

- We are concerned with the description of the expected quality of ground water entering the pit after cessation of mining. Table 3-19 indicates information that the poorest water quality (highest total dissolved solids and concentrations of As, Fe, Mn, Se, and Zn) is associated with deep siltstone and limestone formations. These are not the target ore bodies, and they would remain in place following mining. The final documents should identify the proportion of water entering the pit that would originate from these formations.

Response G

According to the numerical groundwater model, groundwater is predicted to recover within 40 feet of all premining activities.

Response H

The DEIS analyzed cumulative effects of Newmont's dewatering discharge in the Humboldt River downstream to Rye Patch Reservoir (see DEIS, page 4-120). BLM concluded that the quality of groundwater and surface water is not expected to be significantly affected in this cumulative effects area (see DEIS, page 4-125). No cumulative impacts at the Humboldt Sink were expected because: little if any of the dewatering discharge is anticipated to flow to the Sink, and resulting concentrations of the referenced elements are not expected to increase above background levels in the river even during non-flooding periods.

Newmont's discharge rates are not constant through the life of the project. Flows would gradually increase from 10,000 gpm in 1994 to 42,000 gpm in 2001. Maximum dewatering rates would occur only for the last two years of dewatering (see DEIS, page 2-31, Table 2-8). The dewatering discharge that enters the Humboldt River (which will meet State of Nevada water quality standards) would be subject to natural losses through seepage to groundwater, through evapotranspiration that occurs along the length of the river, and through agricultural diversions. Except during wetter than normal years, agricultural diversions during the irrigation season along the middle and lower sub-basins of the Humboldt River were anticipated to consume all or most of the dewatering discharge that remains after natural losses. During the six month irrigation off-season, excess flow would be stored in Rye Patch Reservoir for agricultural use during the following year, except that in extremely wet years, some releases from Rye Patch Reservoir may occur in early spring. For these reasons, it was anticipated that little if any of Newmont's dewatering discharge would reach the Humboldt Sink.

If dewatering flows were to reach the Humboldt Sink, numerous factors would influence the actual trace metal load reporting to the Sink. These include absorption and adsorption on soil particles, vegetation uptake, oxidation, pH changes, and dilution. These physical/chemical processes combine to make prediction of actual loads which may report to the Humboldt Sink impractical if not immeasurable compared to the natural system. Given the complexity of determining the dynamics of transport, uptake, and toxicity, it was not possible to quantify any incremental increases in dissolved solids at the Humboldt Sink that might possibly result from the dewatering discharge.

Response I

The groundwater analyses of wells GQTW-4 and GQTW-5 found in Table 3-19 of the DEIS are indicative of the mineralized portion of the Vinini Formation and not of the deep siltstone and limestone formations. A more accurate indication of the non-mineralized Vinini Formation is from well CS-1. The water chemistry from well CS-1 is attached (PTI 1992).

Upon completion of the pit in 2001, the Vinini Formation and the Roberts Mountain Formation would bound the pit below the local water table. (PTI 1992; page 1-1). The percentage of formation waters that would be contained in the pit lake were estimated from geohydrologic models. HCI (1992a) predicted that the pit influx would be dominated by water exiting from rock having a net carbonate value of -2 to 0 (page 55 and Figure 42). The HCI (1992a) report does not state the influx originating from specific formations.

I

- The poorest water quality is not found in the mineralized zone. The final documents should clarify why the removal of wastewater from this zone would improve water quality.

J

- Modelling was used to demonstrate that some trace elements would be adsorbed on ferric hydroxide compounds and precipitated. However, Appendix E indicates that selenium is not adsorbed and that the increase in arsenic leached from the wall rock was sufficient to offset the percent adsorbed. The final documents should explain why the concentrations of these elements would be lower in pit water following mining and verify the accuracy of the given model in predicting concentrations of these and other elements.

K

- The DEIS uses the predicted water quality in the Gold Quarry Pit Lake to confirm similar water chemistry observed in the Kimbley and Yerington Mine Pits. They also have limestone formations exposed in the pit walls. Although water in Kimbley Pit is not acidic, its quality is low. According to the Robinson Project Environmental Impact Statement, water in the Kimbley Pit exceeded Nevada Water Quality Standards for total dissolved solids and concentrations of mercury, chloride, iron, manganese, and sulfates. Some elements exceed standards by an order of magnitude; however, analytical results for arsenic and selenium were not conclusive. The final documents need to confirm that water quality in Gold Quarry Pit would be similar to that in Kimbley Pit and address cumulative impacts.

- Water in Yerington Pit is of better quality but still exceeds Nevada Water Quality Standards for iron and manganese. Macdonald (1992) indicates that water quality in the Yerington Pit is the result of a number of factors associated with local geology. These factors include the existence of a chrysocolla oxidation cap, which promoted the formation of copper silicate rather than copper sulfide and the erosion of the high pyrite portion of the porphyry during the Tertiary. The final documents should clarify if these conditions are representative of rock in Newmont's South Operations Area Project.

L

In addition to these concerns, the effects of pit water evaporation on water quality were not discussed. We recommend discussing: the expected pit water quality and potential long-term degradation from evaporation; potential impacts to wildlife, particularly migratory birds; and implications for future reproductive success of migratory birds which use the pit lake during migration to nesting areas.

Several open pit mine lakes throughout the west, including most in Nevada, contain water of extremely poor quality. Many of these lakes represent significant threats to fish and wildlife. In some cases, such as the Berkeley Pit in Montana, conditions are highly significant and have warranted action under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA). Remediation and mitigation for these environmental problems will not only be extremely difficult, but also extremely expensive. The

Chemical Parameter	Groundwater from Vinini Siltstone CS-1 (mg/L)	Chemical Parameter	Groundwater from Vinini Siltstone CS-1 (mg/L)
Ag	<0.005	Mg	20.6
Al	<0.10	Mn	0.215
As	<0.005	Mo	0.111
B	<0.10	Na	14.0
Ba	<0.01	Ni	0.05
Be	<0.005	Pb	<0.002
Bi	<0.10	Sb	<0.005
Ca	108	Sb	0.005
Cd	<0.005	Si	7.0
Co	0.011	Sn	0.05
Cr	0.002	SO_4^{-2}	120
Cu	0.005	Th	0.022
Fe	0.08	V	<0.005
Hg	0.0002	Zn	0.019
K	10.0	Alkalinity	263

Response J

Concentrations of arsenic and selenium are predicted to be lower in the pit water following mining due to: (1) removal of groundwater associated with the ore zone during dewatering; (2) removal of most of the mineralized zone during mining; and (3) adsorption and deposition of trace metals (including arsenic) on ferric hydroxide. The geochemical computer model PHREEQE was used to assess the results of mixing varying ratios of influent siltstone to limestone groundwater. Geochemical reactions in the pit lake were determined using MINTEQA2. Both models have been used successfully to predict groundwater chemistries and have been adequately validated.

Response K

The DEIS does not use the predicted water quality in the Gold Quarry pit lake to confirm similar water chemistry observed in the Kimbley and Yerington mine pits. It is the intent of the DEIS to use the quality of Kimbley and Yerington pit lakes to illustrate variable pit water chemistries in Nevada due to time and site- specific conditions such as groundwater chemistries and geochemistry of wall rock. Some of these conditions at Kimbley and Yerington may be similar to the Gold Quarry mine; however, not all conditions of another mine pit would be the same as the Gold Quarry site. Therefore, the geochemistry studies conducted by PTI (1992) for the Gold Quarry mine are considered more accurate predictive methods than comparison of Gold Quarry with other mine sites. The PTI (1992) studies used site-specific groundwater and formation chemical and physical properties, and modeling was supported by laboratory testing using rocks from the pit wall formations and groundwater from these formations.

L

statement fails to demonstrate that pit water quality will not degrade to a point where it represents a potential threat to wildlife. In fact, elevated concentrations of arsenic and selenium in ground water, the inability of ferric hydroxide adsorption to remove these constituents, and the concentrating effects of evaporation seem to suggest that pit water quality will be a long-term environmental concern. Such conditions may not only warrant action under CERCLA, but may also represent potential violations of the Migratory Bird Treaty Act. We recommend that potential water quality in this pit be reassessed. If there is potential for significant water quality degradation, we suggest that another alternative including backfilling of Gold Quarry Pit, at least to a level above the water table, be evaluated.

Response L

The effects of pit water evaporation were evaluated in the geochemical model (PTI 1992; Figure 1.5). The volume of water within the pit lake is controlled by the phreatic surface. Consequently, as water evaporates from the lake, it is continuously replaced by bicarbonate-rich groundwater. This influx of groundwater results in the reduction of some elements in the pit lake with time. For example, as the pit lake ages, the geochemical model indicates that both arsenic and selenium, two elements of great concern, would decrease (PTI 1992; Figures 9.15 and 9.16). See Mitigation Plan, (pages 63-64) for information regarding mine pit reclamation.

M

Page 4-45. Alternatives 1 and 2, First Column, Fourth Paragraph: Because most of the MAG Mine pit will be filled with waste rock, much less water will be required to fill the pit. Furthermore, if the pit is completely filled with waste rock, evaporative losses from the surface will be less than from an open water body.

Response M

The MAC pit is above groundwater, therefore it would be dry. The only evaporation component in the MAC pit would be that occurring after precipitation events.

N

Page 4-74. Riparian Areas and Wetlands, Potential Mitigation and Monitoring Measures: Because the proposed haul road and other facilities may cross waters of the United States, the operation may require a permit from the U.S. Army Corps of Engineers under section 404 of the Clean Water Act. The Service may have additional comments on mitigation for the loss of fish and wildlife resources during the permitting process. In general, before mitigation is considered, we recommend that all feasible measures be taken to avoid impacts to waters of the United States, including wetlands and riparian areas.

Furthermore, while some wetlands or riparian areas are destroyed, new areas may develop in some reaches as discharges are increased. These newly developing wetlands may not have the wildlife values associated with the areas being lost. Thus, we may recommend compensation at a greater than 1:1 ratio of restored to lost acres of riparian community as proposed in the DEIS.

Response N

We understand that Newmont will apply for a Section 404 Permit in connection with the South Operations Area Project.

O

Page 4-84. Terrestrial Wildlife, Direct and Indirect Impacts, Second Column: The fourth paragraph documents mortality of a large variety of wildlife, and indicates that such mortalities would likely increase as process solution collection ponds, associated with the refractory ore leach pads, are added. Solution and tailings ponds and other facilities that contain water with cyanide levels toxic to migratory birds have been a serious problem, particularly for waterfowl in Nevada. Under the Migratory Bird Treaty Act (15 U.S.C. § 701-718h), it is unlawful to kill migratory birds, and no permits are issued to take migratory birds using toxic wastewater facilities. We recommend that measures be implemented to exclude wildlife from these areas.

Response O

The South Operations Area Project would be constructed and operated in compliance with the State of Nevada's Industrial Artificial Pond Permit. This permit requires measures to prevent access of migratory birds and waterfowl to toxic solutions in industrial ponds.

P

Page 4-84. Terrestrial Wildlife, Irreversible and Irretrievable Commitment of Resources, Second Column: The first paragraph states, "Water in the Gold Quarry pit may pose a hazard for birds and bats drinking it for about ten years or until water quality stabilizes." As previously stated, impacts on migratory birds need to be addressed. Measures should be taken to exclude wildlife until the pond water is sufficiently detoxified to be considered safe for wildlife use.

Response P

It is not certain that the pit water quality would pose a hazard for migratory birds. As stated in Appendix E of the DEIS (Summary of the Geochemical Study for the Gold Quarry Mine Pit Lake): "Even when applying highly conservative assumptions for wall-rock oxidation and acid generation, the Gold Quarry pit lake would not be highly acidic or contain levels of metals that exceed ambient siltstone water quality from the mineralized zone." If water quality of the pit lake is determined to be a hazard, migratory birds would be excluded from the lake through a combination of deterrents to be selected at the appropriate time, including but not limited to harassment and detoxification.

Q

Page 4-87 to 88. Aquatic Habitat and Fisheries, Potential Mitigation and Monitoring Measures, Second Column, Fourth Paragraph: Although a mitigation plan for two springsnails species has yet to be developed, the DEIS emphasizes locating other populations of the snails as a means to mitigate the loss of those populations in the vicinity of the proposed mining operation. The conservation of a species needs to be based on knowledge of total population numbers as well as genetic diversity. While similar springs in the area or the original springs after reclamation may support reproducing populations of these snail species, we advise avoiding impacts to the springs and the indigenous snail species. If other populations of the snails are not found and the loss of the snails' habitat appears imminent, the springsnail species may qualify for listing pursuant to the Act.

R

Page 4-120 to 125. Cumulative Effects. Water Resources: The analysis of cumulative effects includes the Betze and the proposed Meikle mines adjacent to the Gold Quarry operation. It indicates the cone of depression created by combined ground water withdrawals of the Gold Quarry and Betze operations will result in a 10-foot ground water drawdown contour which would impact Lyon, Jack, Little Jack, and Maggie Creeks (Figure 4-22 in the DEIS). The analysis does not include pumping associated with the Meikle Mine, or any other future ground water pumping. These impacted creeks contain an important population of Lahontan cutthroat trout (*Oncorhynchus clarki henshawi*), a species designated as threatened pursuant to the Act. A complete analysis of the cumulative impacts of all dewatering activities will be needed to fully evaluate whether the action may affect listed species and to ensure there will be no take[1] of Lahontan cutthroat trout. If the Bureau determines that the proposed action may affect the Lahontan cutthroat trout, then formal consultation pursuant to section 7 of the Act is required.

S

Page 4-125. Cumulative Effects, Riparian Areas and Wetlands: The cumulative impact analysis should address all mines in the Humboldt River Basin that are currently being dewatered or are in a planning stage for being dewatered. It should assess contaminant loading (total dissolved solids and trace elements), impacts to vegetation, and potential effects on fish and wildlife, especially migratory birds, candidate, threatened, and endangered species. The analysis should include the cumulative effects resulting from periods of increased contaminant loading and extended decreased discharge to terminal wetland areas, including the terminus (Humboldt Sink) of the Humboldt River.

SUMMARY COMMENTS

The South Operations Project has far reaching environmental consequences. The impacts include potential degradation or destruction of ground and surface water quality, wetlands, springs, migratory hird habitats, and habitats of species listed as endangered and threatened pursuant to the Act and species designated as category 2 candidates for Federal listing. When the cumulative impacts of other similar projects in the area are considered, even greater environmental consequences are evident. We recommend the Bureau reevaluate the project after the cumulative impact analysis of the water withdrawals is completed.

---

[1] The Act defines take as "...to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct."

Response Q

See Letter 5, Response S.

Response R

See Letter 12, Response J and Letter 14, Response K.

Response S

The cumulative impact analysis has been determined by BLM to be adequate for purposes of the South Operations Area Project EIS (see Response H above). In addition, a cumulative analysis of dewatering impacts in the Humboldt River Basin is currently being conducted by the U.S. Geological Survey. We understand this study will address the issues raised in your comment.

We appreciate the opportunity to provide comments on this proposed project. If you have any questions regarding our comments, please contact David Harlow, Field Supervisor, or Paul Barrett, Staff Biologist, at our Reno Field Office (702) 784-5227.

WILLIAM E. MARTIN

cc:
David Vandenberg, EIS Coordinator, Elko, Nevada

Letter #29

STATE OF NEVADA
BOB MILLER
Governor

L. H. DODGION
Administrator

Administration	(702) 887-4670
Air Quality	887-5086
Mining Regulation and Reclamation	887-4875
Water Quality Planning	887-5883
Water Pollution Control	687-5870
Fax	687-5856

Waste Management
Chemical Hazards Management
Federal Facilities
Fax

DEPARTMENT OF CONSERVATION AND NATURAL RESOURCES
DIVISION OF ENVIRONMENTAL PROTECTION
Capitol Complex
333 W. Nye Lane
Carson City, Nevada 89710

Date: August 9, 1993

To: David Vandenberg, BLM Elko District Office EIS Coordinator

From: David Cowperthwaite, NDEP Clearinghouse Coordinator

Subject: Comments on Newmont Gold Company's South Operations Area Project EIS - 93100118

We have reviewed Draft Environmental Impact Statement (DEIS) for Newmont Gold Company's South Operations Area Project, Elko and Eureka Counties, Nevada and have the following comments.

A The DEIS incorrectly applies the water quality standards for the Humboldt River (e.g. pages 2-35, 2-59, 4-38, 4-85). The DEIS states the limitation of "increasing water temperature in the Humboldt River at Palisade to within 2°C of ambient river temperatures". In fact, NAC 445.1372 Humboldt River at Palisade water quality standards apply to the control point at Palisade Gage upstream to the Elko control point. In other words, the water quality standards in NAC 445.1372 apply to the entire reach not just at Palisade.

B If water is discharged to Maggie Creek, it must meet standards for Class B waters: i.e., must not exceed 20° C for trout streams or 24° C for non-trout streams; and the allowable temperature increase above natural receiving water temperature = none.

C Table 3-11 Water Quality Standards for Humboldt River at Palisade Gage Control Point (p. 3-30) is incomplete. Total phosphorus, fecal coliform and sodium - SAR were not included.

D The Proposed Action would result in increased erosion of Maggie Creek because of the naturally high erodibility of the streambanks (p. 4-37). The DEIS states that the sediment transport would increase significantly which could lead to the formation of a delta at the confluence of Maggie Creek and the Humboldt River. The TSS concentration in the Humboldt River is projected to increase by up to 132 mg/l during periods of maximum erosion of Maggie Creek. The water quality standard for suspended solids in the Palisade to Elko reach is single value ≤ 80.0 mg/l (NAC 445.1372). The Humboldt River in this reach has been identified, by NDEP, as not attaining the suspended solids standard. Any additional increase in suspended solids is not acceptable.

E Insufficient information was provided on the water quality impact of the proposed discharge of groundwater to the Humboldt River. The effect of the discharge on the Humboldt River should be modeled not only for temperature, but also for suspended solids and total phosphorus, both of which presently do not meet the water quality standards at Palisade.

Mitigation measures are addressed in the DEIS as potential measures. We encourage BLM to commit to specific, feasible mitigation measures when possible. In particular, NDEP feels it is important to mitigate the wetland and riparian losses, impacted springs and seeps, stream flow reductions as well as stream bank erosion.

cc: Division of State Lands
State Clearinghouse

LETTER NO. 29 **David Cowperthwaite**

Response A

Water quality standards at the Palisade control point apply to the reach of the Humboldt River extending from the Palisade control point upstream to the Elko control point (NAC 445.1372).

Response B

See Letter 12, Response T.

Response C

In addition to the water quality standards for the Humboldt River at the Palisade control point in Table 3-11 in the DEIS, the following apply (NAC 445.1372):

1. Total Phosphates (ASP): ≤0.1 mg/L annual average; aquatic life (warm water fishery) beneficial use.
2. Fecal coliform: ≤200/400 no./100 mL; contact recreation beneficial use.
3. Sodium (SAR): ≤8 annual average; Irrigation beneficial use.

Response D

Comment noted. Final water quality standards for discharge of excess mine water would be specified in the NPDES permit. See Mitigation Plan, (pages 38-41) for measures to control sediment loads to the Humboldt River.

Response E

As stated above, final water quality standards for discharge of excess mine water would be specified in the NPDES permit. Newmont would comply with the standards established in this permit.

Letter #30

July 16, 1993

Bureau of Land Management
Elko District Office
Post Office Box 831
Elko, Nevada 89803

Attention: Mr. David Vandenberg
EIS Coordinator
Fax: 753-0255

Dear Mr. Vandenberg:

My comments are brief and to the point.

I have grave concerns about adequate mitigation efforts to neutralize the efforts of the Newmont Gold Company's South Operations Area Project. Additionally, the cumulative effects of current or future mining projects must be closely monitored and impacts must be minimized.

As a citizen, I would be very happy to participate in any future efforts to educate the public and achieve a compromise between the expansion of mining and protection of the environment.

Sincerely,

Dorothy B. North

Dorothy B. North

DBN:hc

LETTER NO. 30 **Dorothy B. North**

Comment noted.

Letter #31

Bureau of Land Management
Elko District Office

Dear Sirs:

I am writing this letter in support of the May 13th Draft of the Environmental Impact Statement for Newmont Gold Company's South Operations Area Project.

I believe the benefits of this project for the surrounding communities are substantial and far outweigh the minimal impact on the environment.

This county, the state, and the nation need continued growth not layoffs. So far the mines have helped keep communities going near and far. Other areas of the country benefit from us too.

Mining not only effects how we live now but also the future of our communities, state, and nation. Let's not clamp down on a way to make a decent living for our families.

This is better then welfare, delinquent bills, empty homes in a majority of our towns, closed businesses, closed schools, and joblessness, with no hope. We have been enjoying great growth here in Northern Nevada new schools, new stores, new houses being built, lots of people spending vast amounts of moneys. Life has been good to us here in the Elko area for a number of years. Why try to destroy a good thing.

We are going to have to draw the line somewhere, the Government seems to be trying to destroy our country and our ways of life and happiness. I blame both parties for the failures that are coming down. Can't we stop the pain now before America isn't America anymore.

For these reasons, please accept this letter as a very strong vote for approval of Newmont's South Operations Area Project and the Draft EIS for this project.

Very Truly Yours,
Mary Jane Templeton
Mary Jane Templeton

LETTER NO. 31 Mary Jane Templeton

Comment noted.

Letter #32

July 14, 1993

Bureau of Land Management
Elko District Office
Attn: David Vandenberg, EIS Coordinator
P.O. Box 831
Elko, Nevada 89803

Dear Mr. Vandenberg:

As a lifelong resident of Elko County and a current employee of Newmont Gold Company, I would like you to accept this letter in support of the "May 13 Draft of the Environmental Impact Statement for Newmont Gold Company's South Operations Area Project".

Mining has changed the face of northern Nevada and Elko County, but the change has been one of prosperity. The viability of mining in northern Nevada is extremely important. The benefits of Newmont's South Operations Project are of the type necessary for the continued well being of northern Nevada.

I, therefore, request that you accept this letter in support of Newmont's South Area Project and the Draft EIS for this project.

Sincerely,

William J. Guisti

LETTER NO. 32 William J. Guisti

Comment noted.

Letter #33

July 14, 1993

Bureau of Land Management
David Vandenberg
Elko District Office
P.O. Box 831
Elko, NV 89803

Dear Mr. Vandenberg

The intent of this letter is to notify you of my support of the May 13 Draft of the Environmental Impact Statement for Newmont Gold Company's South Operations Area Project.

I believe that the impacts on the environment have been fully studied and are minimal in comparison to the benefits to this area.

Please count this letter in support of acceptance of the Draft EIS.

Thank you,

DEBBIE SUSTACHA

LETTER NO. 33 **Debbie Sustacha**

Comment noted.

Letter #34

July 14, 1993

Bureau of Land Management
Elko District Office
Attn: David Vandenberg, EIS Coordinator
PO Box 831
Elko, Nevada 89803

Dear Mr. Vandenberg:

I am in strong support of the May 13 Draft of the Environmental Impact Statement (EIS) for Newmont Gold Company's South Area Operations Project.

The impacts of this project on the environment and surrounding communities have been sufficiently evaluated in the Draft EIS. The benefits of this project for the surrounding communities are substantial and definitely outweigh the potential minimal impact on the environment.

I believe Newmont Gold Company's South Area Operations Project is beneficial to the Elko area and urge you to approve the Draft EIS for this project.

Thank you.

Sincerely,
Mary B. Korpi
Mary B. Korpi

LETTER NO. 34 **Mary B. Korpi**

Comment noted.

Letter #35

1892 Laxalt Way
Elko, Nevada 89801
July 15, 1993

David Vandenberg, EIS Coordinator
Bureau of Land Management
Elko District Office
P.O. Box 831
Elko, Nevada 89803

Dear Mr Vandenberg:

I am writing to you to express my support for the May 13 Draft of the EIS for Newmont Gold Company's South Operations Area Project.

As a resident of Elko, it is my opinion that the economic impact of Newmont's South Area Operations Area Project will be tremendously positive, and the benefits from this project will clearly outweigh the environmental impact.

Please consider this letter as my vote for approval of the Newmont South Area Operations Area Project and the Draft Environmental Impact Statement for this project. Thank you.

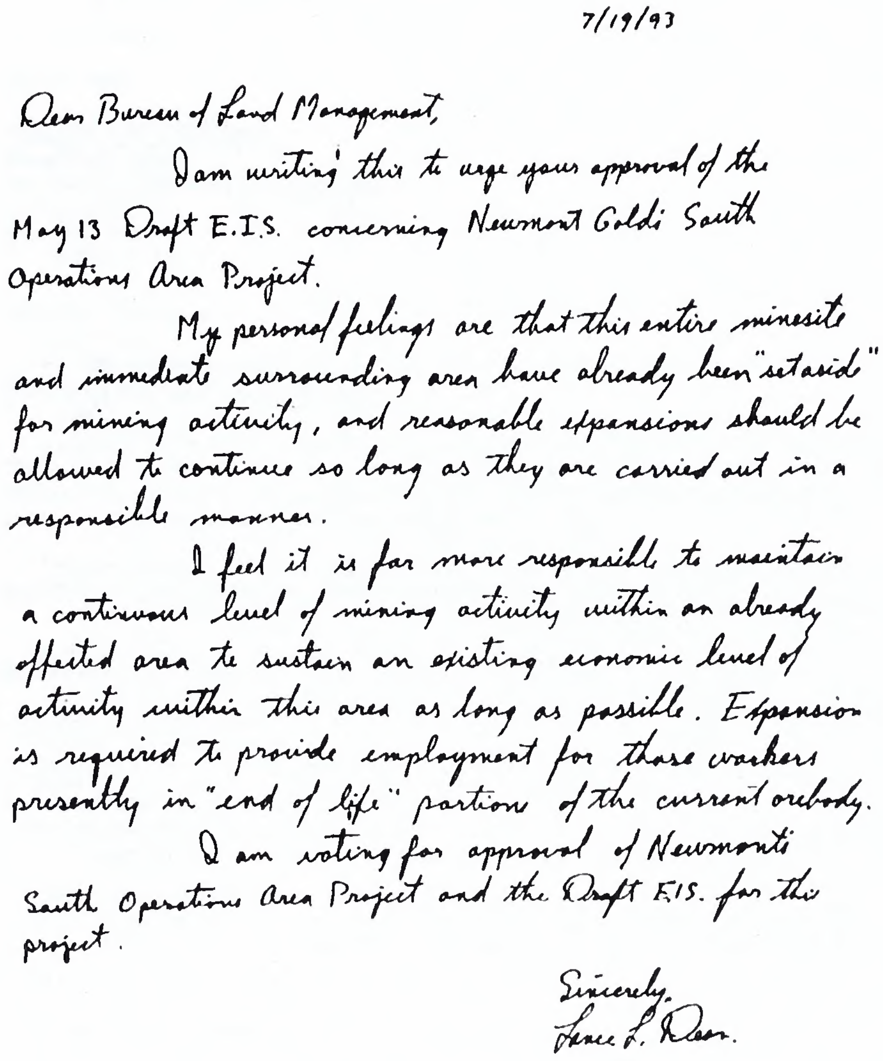
Sincerely,

David A. Groves

LETTER NO. 35 David A. Groves

Comment noted.

Letter #36



7/19/93

Dear Bureau of Land Management,

I am writing this to urge your approval of the May 13 Draft E.I.S. concerning Newmont Gold's South Operations Area Project.

My personal feelings are that this entire minesite and immediate surrounding area have already been "set aside" for mining activity, and reasonable expansions should be allowed to continue so long as they are carried out in a responsible manner.

I feel it is far more responsible to maintain a continuous level of mining activity within an already affected area to sustain an existing economic level of activity within this area as long as possible. Expansion is required to provide employment for those workers presently in "end of life" portions of the current orebody.

I am voting for approval of Newmont's South Operations Area Project and the Draft E.I.S. for this project.

Sincerely,
Lance L. Dean.

LETTER NO. 36 **Lance L. Dean**

Comment noted.

Letter #37

July 19, 1993

Bureau of Land Management
Elko District Office
P.O. Box 831
Elko, Nv 89803

ATTN: David Vandenberg, EIS Coordinator

Dear Mr. Vandenberg:

This letter is written in support of the May 13, 1993 Draft of the Environmental Impact Statement for Newmont Gold Company's South Area Operations Project which is located north of Carlin.

The numerous impacts and questions of this project on the environment and surrounding communities have been adequately assessed and evaluated in the Draft Environmental Impact Statement. Benefits of this project for the surrounding communities are substantial and far outweigh any minimal impact on the environment.

We want to continue to live in the area and support the growth of Newmont Gold Company and its contribution to the economy locally as well as on a national and world-wide level.

For these reasons, please accept this letter as a strong vote for approval of Newmont's South Area Operations Project and the Draft EIS for this project

Thank you for your support.

Sincerely,
M. Hernandez
M. Hernandez
Elko, NV

Thank you.
E. M. Smith
E. M. Smith
105 Colonial Circle
Elko, NV 89801

Sincerely,
Doris Malone
Doris Malone
Elko, Nv

LETTER NO. 37 **Form Letter**

Comment noted.

Letter #38

July 19, 1993

Bureau of Land Management
Elko District Office
Attn: David Vandenberg, EIS Coordinator
P.O. Box 831
Elko, NV 89803

Dear Mr. Vandenberg:

I am writing in support of the May 13th Draft EIS submitted for Newmont Gold Company's South Area of Operations.

This EIS will effect continued operations at the existing Gold Quarry area operations. Delays in permitting will have significant, grave effects on the economy of Elko. We're not looking at permitting for a new operation here. We're looking at preserving existing jobs in the mining, service, education and construction industries.

For this reason, please accept this letter as a vote for the undelayed approval of Newmont's South Operations Area Project and the Draft EIS for this project.

Sincerely,

Anita Eccles

Anita Eccles
Sr. Mining Engineer
Newmont Gold Company

LETTER NO. 38 **Anita Eccles**

Comment noted.

Letter #39

198 Barite Street
Elko, Nevada 89801

July 14, 1993

Mr. David Vandenberg, EIS Coordinator
Bureau of Land Management
Elko District Office
P. O. Box 831
Elko, Nevada 89803

Dear Mr. Vandenberg:

I am writing this letter in complete support of the May 13 Draft of the Environmental Impact Statement for Newmont Gold Company's South Operations Area Project.

The impacts of this project have been sufficiently evaluated in the Draft Environmental Impact Statement. I believe the benefits of this project for the surrounding communities are substantial and far outweigh the minimal impact on the environment. At a more personal level, my decision reflects my concern for the community life in which my own family resides as well as my confidence in Newmont as a responsible and consciences company.

In consideration of the above, please accept this letter as a strong vote for approval of Newmont's South Operations Area Project and the Draft EIS for this project.

Respectfully yours,

Ali Soltani

LETTER NO. 39 **Ali Soltani**

Comment noted.

Letter #40

Bureau of Land Management
P.O. BOX 831
Elko, NV. 89803

July 17,1993

Dear Mr. Vandenberg:

I would first like to thank you for asking Elko County Farm Bureau's comments on the expansion of Newmont Gold Quarry Pit. We, as an organization, believe in the multiple use of the public land, however, it comes as no surprise that our biggest concern is the lost AUMs and the dewatering of some or possibly all of the stock water to that region.

A It seems ironic that the mines trying to get rid of all that water, and ranchers so close willing to take that water, that pipelines and water tanks can't be put in to sustain the livestock and the wildlife. It may be a very small portion of the dewatering but it could mean the livelihood for some ranchers.

B Also, it is felt that by not knowing what will happen to lower aquifers when water is removed from it, that it is best to keep that water in the same basin.

C People's land values are based on AUMs on public land. If no water is left for stock water then land values that the ranchers depend on are greatly reduced. This will make the multiple use concept down to a single use which we oppose.

There should be great effort in trying to keep this land viable for livestock as well as mining and wildlife. With all the water the mine is trying to get rid of, there should be a way to keep that water available to the ranchers.

Sincerely,

Paul Sarman
HCR 30 Box 61
Elko, NV. 89801

LETTER NO. 40 **Paul Sarman**

Response A

The Mitigation Plan (pages 24-29 and 37), provides for replacement of stockwater lost due to mine dewatering and for flow augmentation to seeps and springs providing water for wildlife.

Response B

The hydrogeologic numerical model predicts that the groundwater level will recover to within 10 feet of premining levels by year 2042 (see DEIS, page 4-20).

Response C

See Letter 9, Response A & D.

Letter #41

July 15, 1993

David Vandenberg, EIS Coordinator
Bureau of Land Management
Elko District Office
P.O. Box 831
Elko, Nevada 89803

SUBJECT: May 13 Draft of Environmental Impact Statement for Newmont's South Area Operations Area Project.

Dear Mr Vandenberg,

As a concerned citizen of Elko County and a resident of Elko, I believe that the benefits of Newmont's South Area Operations Area Project will be tremendously positive. I am in full support of the project and would hope to see it approved. The benefits from this project will clearly outweigh the minimal impact on the environment.

The search for natural resources and development of ore deposits is important in the western United States and particularly in Nevada and is a way of life for my family.

Please consider this letter as my vote for approval of the Newmont South Area Operations Area Project and the Draft Environmental Impact Statement for this project. Thank you.

Sincerely,

Leroy Schutz
3327 Argent Ave.
Elko, NV 89801

LETTER NO. 41 **Leroy Schutz**

Comment noted

Letter #42

July 15, 1993

Tom Amesbury
1050 Dotta Dr.
Elko, NV. 89801
(702) 738-2127

Breau of Land Management
Elko Disttrict Office
Attn: David Vandenberg, EIS Coordinator
P.O. Box 831
Elko, Nevada 89803

Dear Mr. Vandenberg:

I am writing this letter in support of the May 13 Draft of the Environmental Impact Statement for Newmont Gold Company,s South Operations Area Project.

Enough tax payers' dollars have been wasted studying the impact of the inevitable expansion of Newmont's South Area Project. The benifits to the Human Ecosystem far outweigh the minimal impact on the local micro environment.

For these reasons, please accept this letter as a strong vote for approval of Newmont's South Area Project and the Draft EIS for this project.

Sincerely,

LETTER NO. 42 **Tom Amesbury**

Comment noted.

Letter #43

HUNSAKER
7014 BROOKOVER DRIVE
BOISE, IDAHO 83709
208-377-9360

July 16, 1993

Bureau of Land Management
Elko District Office
Attn: David Vandenberg, EIS Coordinator
P.O. Box 831
Elko, Nevada 89803

Dear Mr. Vandenberg;

I am writing this letter in support of the May 13 Draft of the Environmental Impact Statement for Newmont Gold Company's South Operations Area Project. The impacts of this project on the environment and surrounding communities have been sufficiently evaluated in the DEIS. I believe the benefits of this project far out weigh the minimal impacts.

I strongly favor approval of Newmont's South Operations Area Project and the DEIS for this project. To continue the benefits generated from the mining industry it is important that this DEIS be accepted and approved.

Please accept this letter as a vote for approval of Newmont's South Operations Area Project and the Draft Environmental Impact Statement.

Sincerely,

E.L. "Buster" Hunsaker III

LETTER NO. 43 **E.L. "Buster" Hunsaker III**

Comment noted.

Letter #44

July 17, 1993

Bureau of Land Management
Elko District Office
Attn: David Vandenberg, EIS Coordinator
P.O. Box 831
Elko, Nevada 89803

Dear Mr. Vandenberg

I am writing this letter in support of the May 13 Draft of the Environmental Impact Statement for Newmont Gold Company's South Operations Area Project.

The impacts of this project on the environment and surrounding communities have been sufficiently evaluated in the Draft Environmental Impact Statement. I believe the benefits of this project for the surrounding communities are substantial and far outweigh the minimal impact on the environment.

I personally have worked for Newmont during the past nine years in various engineering and management positions. It has been my experience that the company considers protection of the environment as a highest priority. In my experience the environment has an even higher priority than gold production.

For these reasons, please accept the letter as a strong vote for approval of Newmont's South Operations Area Project and Draft EIS for this project.

Thank you,

Trent Tempel

LETTER NO. 44 **Trent Tempel**

Comment noted.

Letter #45

I am writing this letter in support of the May 13 Draft of the Environmental Impact Statement for Newmont Gold Company's South Operations Area Project.

The impacts of this project on the environment and surrounding communities have been sufficiently evaluated in the Draft Environmental Impact Statement, I believe the benefits of this project for the surrounding communities are substantial and far outweigh the minimal impact on the environment.

For these reasons, please accept this letter as a strong vote for approval of the Newmont's South Operations Area Project and the Draft EIS for this project.

Thank you.

Clint Monett

Bob Calloway

Steve T. Enriquez

David B. Gallegos

H C Baker

Freddie Calcan

Ernie Cross

Craig H Funk

Curtis E Walker

Marty C. Canepa

Marlene McCracklin

Doreen Dillman

Donald J Britt

Robert D. McKenna

John Moffett

Evelyn Smith

Thomas S. Duke Sr.

Robert S. Campbell

Bret A. Fox

LETTER NO. 45 Form Letter

Comment noted.

Sherri Pacheco

Scott Dullum

Scott Dullum

Karen Tempel

Karen Tempel

Keith Williams

Dale J. Hill

Dale Hill

Eileen Nelsen Hill

Eileen Nelsen Hill

Robert J. Sallee, Jr.

Robert J. Sallee, Jr.

Mardell L. Sallee

Mardell Lee Sallee

Mike Shore
779 S Devon Dr
Elko Nv 89801

Gio O. Donpanco

David E Martin

John E Evans
P.O. Box 21
Carlin Nevada
89822

Carol Kochzer

Troy Bzington

James A. Montoya

Kent Larsen
540 E. Eagle Cr. Dr.
ELKO, NV 89801

Morris A. Brown
1050 Connolly #37
Elko NV
89801

Thank you.

Ron Lenk

Johnny L Bleeland

R Howard

Sincerely,

Ronald T. Powell

Ronald T. Powell
1577 Ruby View Drive
Elko, Nevada 89301

Edward T. Lopez SR.
920 N. Highland DR. #2
Winnemucca, NV
89445

Thank you.

Robt F. Ericson

Ronald F. Thresso

Donnie Jones

Harvey Q. Hill

Harvey Q. Hill

Sincerely,

B Pacheco

Bernie Pacheco

958 E Spring Ck
Elko NV 89801

Weldon M Zeller

CORA J. LOPEZ
920 N. Highland DR. #2
Winnemucca, NV
89445

Thank you.

Jean Fox

Jean Fox
505 Copper Street
Apt. 1906
Elko, Nevada 89101

E Kenneth Pauly

Michael Welch
1716 Crestwood Dr
Elko NV 89801

Thank you.
Linda J Bernarda

Kurt E. Criss
1722 Crestwood Dr
Elko, NV 89801

901 Country Club Dr
Elko Nv.

425 Maple.
Elko, NV. 89801

D Newton Koelzer

Walt Lake
W E Lake
1370 Sagecrest Dr.
#183
Elko, NV.

Benjamin Michael Jenkins

1730 Celtic Way
Elko, NV. 89801

Sincerely,

Nigel Bain

Glenn Lewis

Dan J. Montoya

Thank You.

LEO M. COOMBS

Lisa A. Meriwether

Sincerely,

Ross Carpenter

APPENDIX A

NEWMONT GOLD COMPANY SOUTH OPERATIONS AREA PROJECT MITIGATION PLAN

Bound separately and included herewith

APPENDIX B

SUMMARY OF MAGGIE CREEK STABILIZATION PLAN

APPENDIX B

SUMMARY OF MAGGIE CREEK STABILIZATION PLAN

This appendix contains a summary of an analysis that was conducted by Simons and Associates, Inc. for Newmont Gold Company to establish a method of channel modification and channel stabilization for Maggie Creek that would not increase sediment flows to the Humboldt River. This summary is an excerpt from the Simons and Associates (1993) report: "Maggie Creek Stabilization, Draft Report"; prepared for Newmont Gold Company, Denver, Colorado; October 1993.

General Description of Maggie Creek

Maggie Creek is an ephemeral stream with intermittent flows. Historic flows in Maggie Creek have often exceeded 100 cubic feet per second (cfs). Periods of maximum flow are generally during February through May. The average gradient or slope of the Maggie Creek channel is 0.003 feet per foot. The low-flow channel is largely comprised of sand, gravel, and small cobbles. The channel for flows up to approximately 150 to 200 cfs is very stable. For flows greater than 200 cfs, erosion of upper bank material occurs, increasing the concentration of sediment transported.

The mean daily flow with an exceedance of 50 percent is approximately 4 cfs. A mean daily flow of 100 cfs is exceeded approximately 8 percent of the time. The 1.5- to 2-year frequency bankfull discharge is approximately 100 cfs, and the expected 100-year flood is about 2,300 cfs. A major flood occurred on Maggie Creek during March and April 1993. During this flood, flows in excess of 400 cfs occurred for nine consecutive days, with a maximum mean daily flow estimated to be 640 cfs. This peak flow occurred on March 26, 1993.

Maggie Creek Channel Evaluation

During 1992 and 1993, the hydrologic staff of Newmont Gold Company surveyed and graphically reconstructed channel cross sections at 35 stations along Maggie Creek. The locations were selected to be representative of channel geometry throughout the total 14.8-mile reach extending from Station 0 to the Humboldt River. Based upon these representative cross sections, the Corps of Engineers' HEC-2 model was used to predict water surface elevations, channel widths, and velocities throughout the total reach.

The Manning Roughness Coefficient *n* value is required as input for the HEC-2 model. For Maggie Creek, extensive data had been collected at five stations from which the Manning's *n* value was calculated for low and moderate flow rates of 10 cfs and 100 cfs, respectively. A Manning's *n* value for the observed peak flow rate of 640 cfs was estimated by calibrating the HEC-2 model based upon observed maximum water surface elevations for the March and April 1993 flood.

The Corps of Engineers' HEC-2 model was operated using baseflows of 100 cfs and 640 cfs to develop a hydraulic comparison of channel performance for the years 1992 and 1993 based upon cross-sectional surveys conducted in each of those years. For each of the cases, average channel velocity versus Maggie Creek station output illustrates that changes in cross-sectional geometry from 1992 to 1993 have had an insignificant effect on the average velocity within the Maggie Creek channel. For the reach of Maggie Creek downstream of Station 36802 where pumped water would be introduced, average channel velocity would be about 2 feet per second (fps) for the 100 cfs flow and about 4 fps for the 640 cfs flow. Even though limited erosion did occur during the 1993 flood and limited changes in channel cross section were documented, these changes had little effect on channel velocities, sediment transport capacity, and stability of the Maggie Creek channel.

To determine the hydraulic effect on the Maggie Creek channel, several additional HEC-2 runs were conducted to document incremental changes in average velocity that would result from releasing pumped groundwater into Maggie Creek at the proposed location. For Maggie Creek baseflows of 10 cfs, 100 cfs, and 640 cfs, a maximum pumping rate of 130 cfs was superposed. For these three baseflows, the 130-cfs inflow caused increases in average velocity of 1.4 fps, 0.6 fps, and 0.4 fps, respectively.

Channel Stability Analysis

To verify the expected stability of Maggie Creek when subjected to more or less continuous pumped flows over the 7-year period of mine dewatering discharge, three widely accepted and proven stable channel concepts were utilized. Noting that the Maggie Creek channel boundary consists of sands, gravels, and small cobbles, it can be concluded that average channel velocities smaller than about 4 to 6 fps would result in a stable channel (Sediment Transport Technology - Water and Sediment Dynamics, Simons and Senturk 1992). This analysis indicates that Maggie Creek has a stable channel for the range of discharges that would be imposed by the planned pumping program. Two other equations were utilized to evaluate the stability of the Maggie Creek channel. Results verify the relative stability of Maggie Creek for flows up to 640 cfs.

Impacts of Pumped Flows on Floods of Significant Magnitude

It has been documented that the expected 100-year flood is about 2,300 cfs. Superposing a discharge of this magnitude on anticipated maximum pumped flows of 130 cfs increases the peak flow by 5 to 6 percent. To counter possible increase in sediment discharge within Maggie Creek for this small percentage increase in discharge, bends that exhibited instability during the 1993 flood will be stabilized. If further corrective measures are necessary, it is anticipated that bends identified for stabilization upstream of the point of discharge into Maggie Creek may also be stabilized. The number of bends requiring modification and stabilization of the low-flow channel will be identified in the following water sediment routing analysis of Maggie Creek.

Water Sediment Routing Analysis

During the period March through June 1993, both bed load and suspended-sediment data were collected by Newmont Gold Company's hydrology staff at several cross sections on Maggie Creek. The grain size distribution of sediments being transported as bed load was measured for flows ranging from 12 cfs to 342 cfs. Data were utilized to calibrate the HEC-6 model and to forecast possible changes in concentrations of sediment expected for a range of pumped inflows. The Corps of Engineers' HEC-6 water and sediment routing model was calibrated for two conditions. One considers the average sediment transport measured within the Maggie Creek reach. The other calibrates the model for total sediment transport at a station near the confluence for the March and April 1993 flood. The HEC-6 calibration for average conditions is based upon all suspended sediment and bed load data collected during 1993. There is close agreement between calibrated and average conditions and observed sediment loads.

The calibrated model was then utilized to simulate the transport of sediment along Maggie Creek to the Humboldt River. Comparisons of sediment concentrations for steady flows of 50 cfs, 100 cfs, and 200 cfs were conducted. Thereafter, the HEC-6 model was utilized to calculate sediment concentrations for present and future scenarios. The model was also utilized to verify the effect of stabilization scenarios on sediment concentrations due to inflows of 50 cfs, 95 cfs, and 130 cfs. For scenarios where pumped flows are introduced, bank stabilization measures at the most critical concave bends were employed to provide geomorphic conditions that would not produce higher sediment concentrations for pumped flow combined with normal flows. Analyzing results of the steady low flow and flood of 1993 shows that concentrations of sediment for flows with pumped discharges are always lower than normal concentrations for the same flows prior to employing stabilization techniques.

Utilizing the HEC-6 program, the quantity of sediment transported from Maggie Creek to the Humboldt River during the 1993 flood was estimated. The volume of erosion resulting from the 1993 flood was estimated to be 620,000 cubic feet of sediment of which 290,000 cubic feet were eroded from Maggie Creek downstream of the inflow point for the pumped water. This analysis verifies that channel changes would result in 18,700 tons of sediment transport, with 8,800 tons derived below the pumped water inflow point. Referring to the HEC-6 sediment transport and bank erosion analysis for the 1993 flood, it was determined that a reduction in bank erosion to offset the sediment transported by the pumped water would require channel stabilization to reduce sediment supply by 4,400 tons.

To achieve this reduction in sediment, it would be necessary to stabilize approximately 11 bends. Stabilization in these bends would be achieved by reshaping the upper bank, stepping the upper bank back from the low-water channel by about 5 feet, and stabilizing the outside bend of the low-water channel utilizing rock riprap. As a possible refinement to the methodology adopted for controlling sediment concentrations, it would be possible to develop a small wetland area immediately upstream of the confluence of Maggie Creek and the Humboldt River equipped with a spillway and/or bypass channel to accommodate large flows.

APPENDIX C

SUMMARY OF TEMPERATURE EFFECTS OF THE NEWMONT GOLD COMPANY DEWATERING DISCHARGE ON SURFACE WATER

APPENDIX C

SUMMARY OF TEMPERATURE EFFECTS OF THE NEWMONT GOLD COMPANY DEWATERING DISCHARGE ON SURFACE WATER

The analysis presented in this appendix shows how the thermal regime of the Maggie Creek-Humboldt River system would be when warm water from the Newmont Gold Company mine dewatering operation is discharged to Maggie Creek. This summary is an excerpt from two reports by Edward M. Buchak and John Eric Edinger of J.E. Edinger Associates (1993): "Temperature Effects of the Newmont Gold Company Dewatering Discharge on the Maggie Creek-Humboldt River System"; prepared for Newmont Gold Company, Carlin, Nevada; June 11, 1993; and "Results of GLHT Modelling for a Single Day Daily Maximum and Minimum Temperatures at the Confluence of Maggie Creek and the Humboldt River"; Prepared for Newmont Gold Company, Carlin, Nevada; September 30, 1993.

Introduction

The analysis is based on a hydrodynamic and transport model that divides the Maggie Creek-Humboldt River system into half-mile segments and computes flows and temperatures in each of the segments. The focus of the analysis is to model the behavior of the system for an 11-year historical period. This period is long enough to include many different types of hydrologic, thermal, and meteorological events. Temperatures computed with the model are then analyzed as time series to which extreme event analysis can be applied. Ice forms on Maggie Creek and the Humboldt River from time to time in the period December through March. Ice growth and decay was not considered in the simulations; however, temperature differences due to the dewatering discharge would be reduced if ice were considered because ice represents additional atmospheric cooling not included in this application of the model.

Model Description

The hydrothermal model used in this study is the Generalized Longitudinal Hydrodynamic and Transport (GLHT) model developed by Edinger and Buchak in 1972, as modified and expanded for applications. The model uses longitudinal, open-channel flow equations to route time-varying flows, and a longitudinal constituent equation to compute time-varying temperatures. The computation embedded in the model is a finite-difference representation of these equations. Surface heat exchange computations are included in the model.

Geometric data required for the model are widths and cross sections as a function of depth, and bottom slopes at each of the model cross sections. The time-varying data are inflow rates at the upper ends of the Humboldt River and Maggie Creek and at the dewatering discharge; the inflow temperatures for the Humboldt River, Maggie Creek, and the dewatering discharge; the inflow rates and temperatures for important tributaries and groundwater sources; and the meteorological data for the surface heat exchange computations.

Geometry of the Maggie Creek-Humboldt River System

The width of the Humboldt River varies, but for average flows is approximately 100 feet, with depths of 2 to 4 feet. The width of Maggie Creek also varies, but for average flows is approximately 20 feet, with depths of 1 to 2 feet. Surface widths determine the surface area along the reaches being modeled and accurate estimates of surface area are required for the surface heat exchange computations. Cross sectional areas determine the volume along the reaches and accurate estimates of volume are required for estimates of changes in temperature with time. Width versus elevation data were provided by Newmont for different cross sections along Maggie Creek and the Humboldt River. These data were analyzed using Grapher software to develop width versus depth relationships at the different cross sections. The geometric data for the model segments were determined by interpolation from the observed cross section data. A final task representing the geometry of the Maggie Creek-Humboldt River system in the model is the location of tributaries and groundwater inflows.

Input Data

To run the model for a historical period requires time-varying boundary condition data that are continuous and of good quality. The model requires upstream and tributary inflows and inflow temperatures to compute mass and thermal energy entering the modeled reaches of the Maggie Creek-Humboldt River system. The computation of heat exchange between the water surface and the atmosphere requires meteorological data of air, dew point temperatures, wind speed, cloud cover, solar radiation, and atmospheric pressure. The simulation period is dependent on the length of record available for each of these types of boundary condition data because the model can only be run for periods in which coincident data describing the inflows, inflow temperatures, and meteorological conditions are available; however, it is possible to synthesize certain boundary condition data from observations. The flow, temperature, and meteorological data vary with time and need to be provided to the model as the model clocks through the simulation period.

The temperature portion of the GLHT was verified by comparison to results of the independently applied QUAL2E model. A comparison of these results shows that GLHT computes temperatures approximately 2-3°F higher than QUAL2E. These differences are quite small considering the simplistic boundary condition data used in the QUAL2E application and the complete independence of both the models and their application to the Maggie Creek-Humboldt River system.

Results

Temperatures at Palisade for each day over the 11-year period were computed using the model. The difference in temperature with and without the dewatering discharge is presented for both the 30,000 and 50,000 gallons per minute (gpm) cases. The difference in temperature with and without the dewatering discharge can be added to the actual temperatures to find the computed temperatures with the dewatering discharge. The daily temperature differences in each month were subjected to a Gumbel analysis to determine the daily temperature rise in each month that would occur for different annual return periods. The largest differences occur in the winter months, as would be expected (e.g., a mean difference of 6.2°C in December at the confluence of Maggie Creek and the Humboldt River for Newmont dewatering discharge of 30,000 gpm). Also presented are maximum, one-day temperatures for various return periods by month. For example, a 5.1°C rise can be expected to occur at Palisade at least one day, one year in five years, in January for the 50,000 gpm case. Use of the Maggie Creek Ranch Reservoir for cooling would decrease temperature rises by 3-4°C at the confluence and by 1-2°C at Palisade.

Cooling Tower Assessment

Water temperatures at the confluence of Maggie Creek and the Humboldt River were evaluated for three different cases: (1) no dewatering discharge (ambient case); (2) 50,000 gpm dewatering discharge, no off-stream cooling; and (3) 50,000 gpm dewatering discharge, off-stream cooling tower. The cooling tower is assumed to have an approach temperature of 15°F (cooling tower cold water temperature minus the wet bulb temperature). The effect of the cooling tower was evaluated for two characteristics of the water temperature at the confluence: (1) the increase in the daily wintertime maximum temperatures over ambient; and (2) the increase in daily summertime minimum temperatures from ambient. Both these are the result of the introduction of a relatively large volume of 77°F water that raises the temperature and damps the natural, diurnal temperature cycle in Maggie Creek.

Results show that temperatures at the confluence with the 50,000 gpm discharge exceed the ambient temperature by up to 10°C in the winter months. Summertime temperatures with the dewatering discharge are similar to ambient temperatures. The effect of the cooling tower is to reduce maximum temperatures at the confluence such that the 2°C rise standard can be met at all times during the winter period. In fact, temperatures would be reduced below those that would naturally occur.

The decrease in daily summer minimum temperatures was also modeled. The 50,000 gpm discharge increases summer daily minimum temperatures. The increase in the minimum which occurs is due to the constant dewatering discharge temperature as well as increased mass of water from operation of the dewatering discharge. Operation of the cooling tower can correct this characteristic, with the result that the 2°C limit can also be met in the summer. As in the winter case, the cooling tower reduces temperatures below natural values, and suggests, as in the daily maximum discussion, that a tower with a larger approach temperature could be used.

United States Department of the Interior

BUREAU OF LAND MANAGEMENT
Nevada State Office
850 Harvard Way
P.O. Box 12000
Reno, Nevada 89520-0006

IN REPLY REFER TO:
1793.4/3809
(NV-010)

NOV 19 1993

Dear Reader:

Enclosed is the Final Environmental Impact Statement (FEIS) and Record of Decision (ROD) for Newmont Gold Company's South Operations Area Project amended Plan of Operations. The ROD for this project is being issued simultaneously with the FEIS. The approval of the ROD completes the environmental documentation for this project. The Project incorporates substantial mitigation to minimize impacts to surface water and groundwater resources, including enhancement of nearly 2,000 acres of wetland and riparian habitat and 82 miles of streams.

The FEIS has been prepared in an abbreviated format and must be used in conjunction with the Draft Environmental Impact Statement (DEIS), issued May 21, 1993. The FEIS and DEIS constitute the complete EIS. The FEIS responds to comments received during the public review period on the DEIS and contains a comprehensive mitigation plan committed to by Newmont to eliminate or reduce potential environmental impacts as described in the DEIS.

The decision reached in the ROD is subject to appeal to the Interior Board of Land Appeals. The 30 day appeal period starts with the publication of the Notice of Availability for the FEIS by the Environmental Protection Agency in the Federal Register. The appeal period for the ROD runs concurrently with the 30 day public review period for the FEIS. Implementation of the Plan of Operations will not begin until the 30 day public review of these two environmental documents are completed.

You may direct comments or questions to David Vandenberg, EIS Team Leader at the Bureau of Land Management, Elko District Office, P.O. Box 831, Elko, Nevada 89803.

Sincerely,

Billy R. Templeton

Billy R. Templeton
State Director, Nevada

1 Enclosure
Encl. 1 - FEIS & ROD

United States Department of the Interior
Bureau of Land Management
Nevada State Office
850 Harvard Way
P.O. Box 12000
Reno, Nevada 89520-0006

RECORD OF DECISION

November 18, 1993

NEWMONT GOLD COMPANY'S SOUTH OPERATIONS AREA PROJECT

N16-81-009P

INTRODUCTION

In February, 1992 Newmont Gold Company ("Newmont") submitted to the Elko District Office of the Bureau of Land Management ("BLM") an amended Plan of Operations, as required by 43 CFR 3809, for the proposed South Operations Area Project. The proposed project would allow Newmont's existing Gold Quarry Mine to continue while expanding the operation to include two satellite ore bodies, the Mac and Tusc deposits. Also proposed was a haul road from Newmont's North Area to the South Operations Area to allow haulage of mill grade sulfidic ore from Newmont's private Post Mine. Other facilities proposed include waste rock disposal areas, heap leach pads, expansion of the existing tailing storage facilities, a mine dewatering system, and a water treatment system.

To respond to Newmont's amended Plan of Operations BLM prepared a Draft Environmental Impact Statement ("DEIS") which was issued on May 21, 1993. Comments on the DEIS were solicited by BLM until July 19, 1993. In response to the DEIS, Newmont prepared a Mitigation Plan to eliminate or reduce the potential impacts that were identified in the EIS. Newmont's Mitigation Plan was reviewed and accepted by BLM on October 18, 1993. Subsequent revisions to the Mitigation Plan were made by Newmont and accepted by BLM on November 9, 1993. An abbreviated Final EIS ("FEIS") was prepared that considered the comments that had been received as well as the Mitigation Plan that was committed to by Newmont. The Record of Decision ("ROD") is being issued concurrently with the FEIS.

DECISION

Based upon the FEIS, I have determined that the implementation of the amended Plan of Operations, as modified by Newmont's Mitigation Plan, as well as the Mitigating Measures described below, will not cause unnecessary or undue degradation of the subject public lands and the amended Plan of Operations is hereby approved subject to the mitigating measures described in this Decision. The Plan of Operations shall not be implemented by Newmont until 30 days following the date that the Environmental Protection Agency publishes, in the Federal Register, the Notice of Availability of the FEIS/ROD.

ALTERNATIVES, INCLUDING THE PROPOSED ACTION, BLM'S PREFERRED ALTERNATIVE, AND THE ENVIRONMENTALLY PREFERRED ALTERNATIVE

The analysis of alternatives in the DEIS included the Proposed Action, the No Action Alternative, and three alternatives to specific issues raised during public scoping. The issues were: 1) changes in aquatic habitat resulting from discharge of warm groundwater as a result of mine dewatering; 2) Feasibility of backfilling open pits; and 3) Changes in quantity and quality of surface water and groundwater resources in the Maggie Creek Basin. The alternatives that were considered in detail for these issues were:

- Operation of the cooling tower system to ensure that discharge water, when mixed with receiving waters (Maggie Creek or Humboldt River) meets State of Nevada standards for ambient water temperature (+/- 2C°) at the confluence of the Humboldt River with Maggie Creek;
- Backfilling the MAC open pit mine with waste rock generated from the Tusc open pit mine;
- Discharge of the treated groundwater from the mine dewatering system directly to the Humboldt River via pipeline;

A full description of each of the alternatives can be found in the South Operations Area Project DEIS.

BLM reviewed the comments received during the 60 day public review period on the DEIS. Newmont's Mitigation Plan along with additional geotechnical studies made it possible to revise the Agency Preferred Alternative. The Preferred Alternative includes all components of the Proposed Action with implementation of Newmont's Mitigation Plan. The Mitigation Plan responds to the potential impacts identified in the DEIS including stabilization of the Maggie Creek channel to transport mine discharge water without increased erosion or sedimentation, and installation of up to two cooling towers to ensure the discharge water will meet state standards at the confluence of the Humboldt River with Maggie Creek. BLM's Agency Preferred Alternative is described in more detail in the FEIS. This Decision, which approves the amended Plan of Operations subject to the mitigation measures described herein, is consistent with the Agency Preferred Alternative.

The National Environmental Policy Act, as interpreted through the regulations promulgated by the Council on Environmental Quality, require that the Record of Decision for any federal action also identify the "environmentally preferable" alternative. Because mining is, by its nature, disruptive to the resources in the immediate area being mined, none of the "action" alternatives is environmentally preferable. Rather, the No-Action Alternative would result in the least disturbance to the environment.

MANAGEMENT CONSIDERATIONS

Newmont's amended Plan of Operations provides for the continuation and expansion of existing mining within the South Operations Area, an area within the Elko District where mining has been identified as an appropriate land use that is in conformance with the Elko Resource Management Plan. The mine area is not included in any areas of designated National, regional or local significance. Mining, by law, is a valid use of the public lands, which is inherently site specific and which does not lend itself to relocation.

Newmont's past operations in the South Operations Area and the operations of other mining companies in the same general vicinity have established mining as the principal land use in the area in the near term. The majority of letters received on the DEIS were supportive of the Proposed Action, Newmont's past efforts to minimize adverse environmental impacts, and the continuation and expansion of mining at the South Operations Area.

Approval of the Plan will permit Newmont to utilize its existing workforce of approximately 900, and its existing equipment and infrastructure to develop its South Operations Area Project. It may also ultimately facilitate the development of other nearby gold resources, which were analyzed under the cumulative impact portion of the DEIS. As required by 43 CFR 3809, any such development involving public lands would require submission of a plan of operations and environmental analysis.

The amended Plan of Operations, including Newmont's Mitigation Plan will minimize the adverse environmental impacts identified in the EIS and ensure that all practicable means to avoid or reduce environmental harm have been incorporated into the project. The monitoring requirements of the amended Plan of Operations and Mitigation Plan will assist Newmont, BLM and others in identifying and mitigating or avoiding any unforeseen environmental impacts that may occur. The long-term monitoring and mitigation committed to, including periodic review and recalibration of Newmont's hydrogeologic numerical groundwater model, shall provide additional protection and periodic opportunities for BLM to refine and modify the analysis, mitigating measures and determinations contained in this Decision.

Considering all pertinent factors, the Agency Preferred Alternative provides for the systematic development of a minable resource in the least environmentally impacting manner. All practicable means to avoid or minimize environmental harm from the selected alternative have been adopted.

MITIGATION AND MONITORING

This Decision expressly incorporates each of the following mitigation measures and monitoring requirements.

1. Pursuant to the Endangered Species Act, 16 U.S.C. § 1531 et seq., BLM has prepared a Biological Assessment for the South Operations Area Project. As set forth in the Biological Assessment, BLM has concluded that the Project will not

have any adverse impacts to Lahontan Cutthroat Trout (LCT) or any other listed species or critical habitat. The Biological Assessment was submitted to the U.S. Fish & Wildlife Service ("FWS") for review on November 11, 1993. The FWS has 30 days in which to respond in writing as to whether or not it concurs with the conclusions of the Biological Assessment. 50 C.F.R. § 402.12(j).

The Bureau specifically finds and concludes that issuance of this Record of Decision during the 30-day period of the FWS's review does not constitute an irreversible or irretrievable commitment of resources, nor will it have the effect of foreclosing formulation or implementation of any reasonable and prudent alternative measures which BLM, in consultation with the FWS, may determine are necessary or appropriate to the protection of listed species. The reasons for this conclusion include:

a. The MINEDW hydrogeologic numeric model has been used to generate annual depictions of the dewatering cone of depression, showing the area of potential impact from dewatering as of the end of each year during the life of the Project. These annual outputs demonstrate that the area of potential impact from dewatering will not extend above Maggie Creek Canyon until at least the end of 1996. Therefore, no areas of potential concern with regard to LCT would be subject to any impacts from dewatering during this period.

b. If the FWS does not concur with the findings of the Biological Assessment, BLM specifically reserves the right to initiate formal consultation with the FWS respecting the potential impacts of continued dewatering after 1996, and to take whatever steps it deems necessary and appropriate under the Endangered Species Act, including but not limited to the imposition of further monitoring measures and the addition of mitigation requirements.

c. Although LCT are not expected to experience any impacts from mine dewatering throughout the life of the South Operations Area Project, the Mitigation Plan specifically provides that if at any time the groundwater level in monitoring well JCK-3 falls to less than one foot above the elevation of the bed of Maggie Creek, BLM (in accordance with the provisions of the Mitigation Plan) may take all necessary and appropriate measures to ensure that there are no adverse impacts to LCT, including consultation under the Endangered species Act.

2. Any significant modification of the Plan of Operations affecting public lands or resources must be reviewed and approved by the Authorized Officer prior to its implementation. BLM reserves the right to require Newmont to submit a modification to their Plan of Operation, in accordance with 43 CFR 3809.1-7, in the event that BLM determines that those operations would cause unnecessary or undue degradation of public lands or resources. In addition, if BLM determines at any time that the Plan of Operations as approved in this Record of Decision is causing environmental impacts beyond those analyzed in the South Operations Area Project EIS, BLM may require the preparation of supplemental environmental

documentation under NEPA to analyze those impacts. Such circumstances may include, but are not limited to, any expansion of the dewatering cone of depression beyond the area of impact analyzed in the EIS, and surface disturbance of previously undisturbed areas in connection with the augmentation plan or otherwise.

3. Within 90 days after the effective date of this decision, Newmont shall submit to BLM a proposed form of conservation easement in favor of BLM, covering riparian exclusion and restoration zones along middle Maggie Creek as described in the Mitigation Plan and containing the terms and conditions set forth in the Mitigation Plan. The term of the conservation easement shall extend throughout the life of the dewatering impacts as described in the DEIS . Newmont will execute and record the easement upon approval of the proposed form by BLM.

4. If, at any time following cessation of active mining at the Gold Quarry pit, BLM determines that the water quality of the pit lake is hazardous to migratory birds, Newmont shall take such measures as BLM determines are reasonably necessary to mitigate such hazard.

5. In completing the stream channel stabilization measures and implementing the water cooling system referenced in the Agency Preferred Alternative and the Mitigation Plan, Newmont shall adhere to the compliance schedule established in the NPDES permit issued by the Nevada Division of Environmental Protection.

6. Newmont will continue to implement the draft Refractory Stockpile and Waste Rock Dump Monitor Plan. Newmont will work with NDEP and BLM towards finalization of this monitoring plan.

7. Newmont shall avoid or mitigate impacts to cultural resources eligible for inclusion on the National Register of Historic Places ("Historic Properties") resulting from the proposed action and associated mitigation measures, regardless of surface ownership. To achieve this, Newmont shall ensure that, prior to the initiation of surface disturbing activities, a qualified archeologist has examined the proposed development area and, in consultation with BLM, identified any Historic Properties.

   a. When Historic Properties are located on lands owned or controlled by Newmont and avoidance is not practicable, Newmont shall contract with a qualified archeologist to conduct a data recovery program. Upon completion of the fieldwork phase of data recovery, Newmont may proceed with the surface disturbing activity affecting such Historic Properties. Newmont shall provide BLM with a technical report documenting the data recovery no later than one year from the completion of the fieldwork.

   b. When Historic Properties are located on public lands Newmont shall comply with the procedures established under the National Historic Preservation Act of 1966 as amended.

c. Newmont shall contract with a qualified archeologist to periodically monitor, as prescribed by BLM, and identify any potential impacts to site CRNV-12-11723 resulting from Newmont's dewatering discharge into Maggie Creek. In the event any such potential impacts are identified, Newmont shall comply with the provisions of subparagraph a. above.

8. Any public or private wells that are adversely affected by the Gold Quarry Mine dewatering, with respect to beneficial use, shall be replaced or another water source of equivalent yield and quality will be provided during the period of effect, as required by the State of Nevada.

9. Mitigation of fossilized materials may be required by BLM if vertebrate remains are discovered during construction, operation, or closure activities. If vertebrate remains are discovered, BLM shall be notified. BLM will determine the significance of the resources and develop a plan for mitigation and possible salvage of the vertebrate remains. If required by BLM, Newmont shall avoid and protect the remains until a qualified paleontologist, contracted by Newmont, conducts the investigation.

10. Within 90 days after the effective date of this decision, Newmont shall provide good and sufficient financial surety for post-mine closure reclamation to BLM, in a manner consistent with the regulations of the Nevada Division of Environmental Protection governing financial surety for reclamation (NRS and NRC 519A).

11. Within 90 days after the effective date of this decision, Newmont shall provide good and sufficient financial surety for post-mine closure mitigation (including, without limitation, potential streamflow augmentation) to BLM in a manner consistent with the regulations of the Nevada Division of Environmental protection governing financial surety for reclamation (NRS and NRC 519A).

PUBLIC INVOLVEMENT

The amended Plan of Operations for the South Operations Area Project was submitted to BLM in February of 1992. The scoping period was initiated by publication of a Notice of Intent on February 14, 1992 (Fed. Reg. pages 5462 and 5463) and comments were accepted until April 24, 1992. The Notice of Intent summarized the proposed action and the Bureau of Land Management's determination that an EIS was necessary for analysis of the proposal. The public and all appropriate local and regional news media including 18 news organizations and two radio stations were notified in writing of the periods available for comment. Formal public scoping meetings were held in Elko and Reno, Nevada on April 7th and 8th, 1992, respectively and were attended by 138 individuals.

During the scoping period a total of 517 written responses were received from individuals and groups. Of the 517 individuals and groups, 448 signed a petition concerning recreational use of a proposed reservoir that is part of the proposed action. Comments were also received from the Nevada State Clearinghouse.

Based upon the public comments received and the issues and concerns identified by BLM a DEIS was prepared. The DEIS was filed with the Environmental Protection Agency which subsequently published a Notice of Availability on May 21, 1993. A 60 day comment period was held through July 19, 1993. The public, including all those interested parties identified on the updated South Operations Area Project EIS mailing list, and all appropriate local and regional news media including 18 news organizations and two radio stations were notified in writing of the periods available for comment. Public meetings were held in Elko and Reno, Nevada on June 23rd and 24th, 1993, respectively and were attended by approximately 100 individuals, one of whom spoke. Forty five comment letters were received.

APPEALS

This Decision is subject to appeal pursuant to 43 CFR § 3809.4. A party that is adversely affected may file such an appeal in accordance with the procedures in 43 CFR Part 4. An appeal shall be filed not later than 30 days after the date of publication of the Notice of Availability of the FEIS/ROD in the Federal Register. See 43 CFR Part 4.

APPROVAL

Billy R. Templeton

Billy R. Templeton,
State Director, Nevada

11/19/93
Date

PROPERTY O
U.S. BLM
NEVADA S.O.

DATE DUE

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